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ProAVLAsia

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Editor's note

On a recent trip to China, the country's latest GDP figures were revealed, provoking palpable relief across the worldwide media.

The announcement of a 6.4% year-on-year growth was higher than expected. It followed a period of the slowest economic growth in nearly three decades. Various factors were cited: rising wages and higher living costs; perception of the country as a less attractive destination for foreign companies; trade wars; and a shrinking workforce as the population aged and birthrates fell. The welcome April news, therefore, caused some of the world banks to raise their 2019 forecasts for China.

Judging by the cities and projects I visited, China is far from stalling. Urban development remains apparent everywhere, and this feeds directly into the AV industry. Everywhere I visited, from recording studios to theatres and nightclubs to sports facilities and esports venues, underline the country's growth and sophistication.

The visit that really stands out, however, will provide an educational establishment in Shanghai with a spacious, well-equipped orchestral recording facility designed by one of the world's top studio acousticians when it opens later this year. Four additional studios will teach, among other things, immersive sound recording and mic placement. The real surprise was that this is no expensive private school or top university. No, it's a state-run middle school for children aged 12-18 who show musical talent. If anything is going to assure that China retains its position in the world's economic ranking, it's the country's very apparent recognition that educating tomorrow's generation is vital for forward motion.



Caroline Moss

Email: cmoss@proavl-asia.com

CONTACTS



Richard Lawn:

T: +44 1892 676280
F: +44 1892 676282

GENERAL MANAGER

rlawn@proavl-asia.com



Sue Gould:

T: +44 1892 676280
F: +44 1892 676282

ADVERTISING DIRECTOR

sgould@proavl-asia.com



Ledetta Asfa-Wossen:

T: +44 1892 676280
F: +44 1892 676282

MANAGING EDITOR

lwossen@proavl-asia.com



James Cooke:

T: +44 1892 676280
F: +44 1892 676282

REPORTER

jcooke@proavl-asia.com



Karen Wallace:

T: +44 1892 676280
F: +44 1892 676282

EDITORIAL COORDINATOR

kwallace@proavl-asia.com



Simon Luckhurst:

T: +44 1892 676280
F: +44 1892 676282

SENIOR REPORTER

sluckhurst@proavl-asia.com



Nick Smith:

T: +44 1892 676280
F: +44 1892 676282

DIGITAL MEDIA MANAGER

nsmith@proavl-asia.com



Chris Yardley:

T: +44 1892 676280
F: +44 1892 676282

VIDEO EDITOR

cyardley@proavl-asia.com



Sue Su:

T: +86(20)85633602

GUANGZHOU MANAGER

ssu@proavl-asia.com



Carolyn Valliere:

T: +1 562 746 1790

SALES ASSOCIATE

cvalliere@proavl-asia.com



Raymond Boey:

T: +65 6457 2340
F: +65 6456 2700

SINGAPORE OFFICE

rboey@proavl-asia.com



Mame Mittelmann:

F: +65 6491 6588

CIRCULATION

circulation@proavl-asia.com

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Shure initiates raid on counterfeiter

CHINA: Shure has revealed details of a police raid that was recently undertaken at the factory of Enping Soundpu Electronics Equipment, a Chinese manufacturer of counterfeit products that also operated under the name Voxpu Electronics Equipment. The raid and onsite enforcement action, which was initiated by Shure, working closely with the Enping Public Security Bureau (PSB) and the Enping Administration of Industry and Commerce (AIC), uncovered wireless microphones and receivers, consoles, amplifiers and processors that fraudulently carried the branding of Sennheiser, Yamaha and Harman, as well as Shure.

Soundpu had previously been fined in August 2018 by the Enping AIC after counterfeit Shure wireless microphones were found at its factory premises during a routine market investigation carried out in April 2018. Following the more recent raid, Shure has started the process of criminal prosecution against the owner and managers of Soundpu due to its



A counterfeit Shure mic

continued counterfeiting activities and disregard for intellectual property rights.

'Counterfeiting is an ongoing problem for the audio industry, and we remain vigilant in our anti-counterfeiting efforts,' said Chris Schyvinck, Shure president and



CEO. 'Shure is deeply committed to protecting our valued customers from low-quality counterfeits and ensuring that our customers experience only the quality of a genuine Shure product every time they purchase a product bearing the Shure name.'

In addition, Sennheiser, Yamaha and Harman will all be assisting Shure with the forthcoming criminal prosecution of Soundpu.

'Brand and product piracy is a problem that demands to be taken seriously,' said Dr Andreas

Sennheiser, co-CEO of Sennheiser. 'Just as in other sectors, audio companies are affected by the trademark and product piracy that impacts brands that manufacture high-value products.'

'Counterfeit products do not just exasperate customers by delivering a bad experience that does not reflect the promise of the brand,' added Daniel Sennheiser, Sennheiser's other co-CEO. 'These cheap counterfeits also fall short in terms of quality and in some cases dangerously so. This damages

the industry as a whole and we welcome joint action against violations in order to better protect consumers.'

Takuya Nakata, president and representative executive officer at Yamaha Corporation, noted that Yamaha has long taken measures against counterfeit products, particularly in China. 'We have done so because we firmly believe that these activities will not only protect our valued customers and end users from low-quality counterfeits but also lead to an improvement of reliability and trust in our brands,' he said. 'We are grateful for the opportunity to work together with Shure, Sennheiser and Harman in order to accelerate such activities.'

'Our collective intellectual property has been compromised, and we greatly appreciate the cooperation of Sennheiser, Yamaha, and Harman in this matter,' concluded Mr Schyvinck. 'We encourage customers to buy all of these professional audio products only from authorised dealers.'

www.shure.com

AVIXA commences InfoComm SEA countdown

SOUTH EAST ASIA: AVIXA recently concluded a six-city tour in South East Asia to promote the InfoComm SEA exhibition in Bangkok. Scheduled to take place at the Bangkok International Trade and Exhibition Centre between 15-17 May, members were invited to learn more about the show and the seminars that will be taking place.

CEO David Labuskes kicked off the session marking the concluding date at the Marriott Hotel in



L-R: A successful tour is over for AVIXA's Jonathan Seller, David Labuskes and Terry Friesenborg

Singapore with an overview of the not-for-profit organisation's aims in getting people to better understand AV technology. The *Impact of AV Technology in Modern Business* talk centred on how businesses need to better understand and value AV as an asset and why AV investments drive businesses forwards. The discussion was backed up with AVIXA's respected MOAR statistics compiled from numerous consumer, end-user and AV provider surveys.

InfoComm Asia executive director Richard Tan then went on to provide an explanation on why AVIXA has selected Bangkok as the city to host the long-awaited exhibition. In addition to a 11,000m² floor plan boasting over 120 exhibitors, the summit will also include industry and technology forums, special conferences, AVIXA seminars and technical tours.

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Riedel's Beijing office opens

CHINA: Riedel Communications' Beijing office, announced last year, has opened for business. The German manufacturer's top brass, including Gao Jian, general manager of the company's China branch, were all present during the recent We Need To Talk event at the Hilton Beijing hotel.

'After eight months of applications, preparation and registrations, Riedel China Branch has officially opened,' said Ms Gao. 'We hope to help our dealers and strengthen their service by providing local support. Our aim is to achieve further growth.'

Thomas Riedel, founder and CEO of Riedel, celebrated the momentous occasion by wearing a pair of red shoes. 'Today's China is a very important market for Riedel,' he said. 'We believe that it is the best time to set up a branch to expand

the company's business and better serve our customers.'

'Since Riedel entered the Chinese market in 2008, we have achieved a strong market performance and laid a solid foundation,' said Martin Berger, Riedel Communications' global chief sales officer. 'Riedel China is not just an office, but an independent subsidiary affiliated

with the Riedel headquarters, which means that we can take root here and get closer to our customers, learn from each other and make progress together. The new Chinese team will not only receive support from the Asia Pacific base, but also from the Riedel headquarters.'

www.riedel.net



Vega Global to establish Thailand operations

THAILAND: Vega Global has acquired a business permit in Thailand. The distributor and systems integrator already operates from more than 20 offices across Asia, Europe and America, and the new Thai office will join several Asian facilities in China, Hong Kong, India, Indonesia, Japan, Korea, Macau, Malaysia, Philippines, Singapore, Taiwan and Vietnam.

The announcement was made during the company's country managers' strategy meeting in Sabah, Malaysia. A new business permit was also revealed as having been acquired in Bulgaria. 'With our two new office locations, we are further expanding our global sales organisation, and have broadened our client base to accommodate the growing demands in the international AV

market,' explained global business development director Matthew Deayton.

'As we steer towards further expansion of Vega Global, our team strives to rise above all the challenges and to stay agile in the face of changes,' commented Vega Global's managing director, Laurie Chow. 'We gathered together in Sabah to further strengthen our business strategy, and camaraderie.'

The meeting was supported by Bose, Crestron and Shure, whose teams, led by Christian Liebenberg, Max Davies and Tomi Kallio, and Andy Wan and William On respectively, presented their latest products and networked with Vega's management to further strengthen their partnerships.

www.vega-global.com



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Ross acquires Piero Sports Graphics

WORLD: Ross Video has acquired Piero Sports Graphics from British-based Red Bee Media. As a result, Piero products will become part of Ross Video's sports solutions portfolio, while Piero staff have moved to Ross Video UK.

Piero Sports Graphics is a sports analysis toolset used by high profile broadcasters to provide audiences with new angles and virtual views of sports events through 3D graphics and image recognition, as well as by sports clubs as a coaching tool to guide players and improve team performance.

'The sale of Piero Sports Graphics supports the execution of our strategy, fully focusing on delivering market leading

managed services within broadcasting and media,' said Steve Nylund, CEO of Red Bee Media. 'Ross Video is well positioned to continue to develop Piero and they will be able to leverage the potential of the product and accelerate growth of the business.'

Ross Video CEO David Ross, commented: 'Piero Sports Graphics are a perfect complement to our industry-leading XPression Graphics and VS/AR offerings. Our worldwide sports production customer base will really appreciate the added momentum and exposure we can give to this legendary product.'

www.rossvideo.com

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KSL touches down for its APAC debut

SINGAPORE: Following the global launch of the KSL loudspeaker system at The NAMM Show, d&b audiotechnik has taken to the road to formally introduce the latest addition to the SL-Series family. Seven weeks on since the arrival of the 58kg cabinet at the Fox Theater Pomona in Los Angeles, invited guests from the



The KSL was unveiled at Singapore's Star Performance Arts Centre

Asia Pacific region converged on The Star Performing Arts Centre in Singapore to better understand the Kleiner (Smaller) Special Loudspeaker. Following an introduction titled 'Applied Evolution' by APAC territory manager Mike Case, a

thorough technical demonstration of the system's performance was provided by Werner 'Vier' Bayer and Matthias Christner. The KSL was then put through its paces in the 5,000-seat theatre with musical playback in various configurations. A rigging demonstration highlighting the three rigging modes, including the latest compression mode features, rounded off the morning and afternoon sessions. Utilising the D80 amplification platform, KSL incorporates the same technical innovations and performance characteristics of its groundbreaking big brother, GSL. Featuring all the recognisable benefits of its Special Loudspeaker lineage, KSL provides full bandwidth dispersion control, an extended LF response and advanced rigging options, all wholly aligned with the d&b Workflow. The highly flexible speaker format has been created as both a standalone and a fill and delay accompaniment to the GSL. A thorough examination of the cabinet's components – during the 'Size Matters' section – highlighted the dual three-inch voice coil high-frequency compression drivers, the mid frequency eight-inch transducer, and the low frequency front-loaded dual 10-inch and additional dual eight-inch side-mounted speakers. In addition, a new subwoofer companion comes in the form of the flyable SL-SUB. With its two forward facing 21-inch drivers and single, rear facing 21-inch woofer



Over 200 invited guests attended the STAR studded occasion

for cardioid dispersion, the 138kg family member certainly made an impression to those attendees who desire deep bass extension. The SL-Series design philosophy is partly based on the German innovator's concept of Art and Noise. 'This is especially important for outdoor concerts in Australia, Europe and the US – but it is becoming a big issue around the world,' explained Mr Bayer. 'Those attending a music festival hear the music as art. However, if the reinforced audio isn't contained within the festival site, the unwanted noise emissions will be regarded as noise to those living close by. We aim to ensure that concert promoters get to stage their concerts by adopting the full bandwidth directivity technology inherent with the SL-Series. It's our aim to make sure the shows

are staged by reducing unwanted emissions.' In addition to the many noted industry figures who had flown in from Japan, China and India, some rental company owners had

made the trip north from Australia. Western Audio Engineering's owner, Andy Craig, had flown in from Wellington, New Zealand. 'The KSL is an obvious companion to the GSL that I just wanted to verify that it was as good as I anticipated and it certainly ticks every single box I was looking at. We have enjoyed great success with the J-Series for many years and now GSL is astounding visiting engineers on account of its fidelity and power. So using KSL for smaller occasions is a no brainer. It's always great to meet the designers and hear them explain the process of what drove them to get to the final result, the obstacles they encountered along the way and the solutions they came up with. Then you hear the final result and you realise that they really nailed it.'

www.dbaudio.com



Compression Mode explained





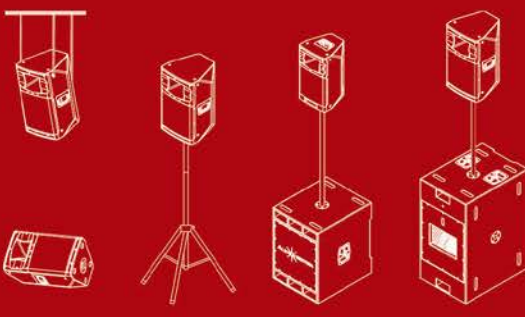
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Waves enables its partners

THAILAND: Waves Audio recently staged its Partner Enablement Camp at the Holiday Inn Sukhumvit in Bangkok. The three-day workshop was attended by Waves dealers from Thailand, Indonesia, South Korea, Singapore, Malaysia, India and the Middle East. It was held in response to the ongoing increase and expansion of Waves' live and install businesses in the region.

The Waves team leading the workshop comprised EVP of sales and marketing Mick Olesh, live marketing manager Noam Raz, product specialist Michael Adams, and regional sales manager Ravisankar Nadiyam. The training and demonstrations explored the Waves MultiRack/SoundGrid, the eMotion LV1 Live mixer, and using Waves plug-ins for studio and live sound.



'I believe that our task, and that of our partners, is to ensure that we are informing and educating the user base with what Waves

solutions can contribute to them,' said Mr Nadiyam. 'When I planned this event, my aim was to provide our partners with accurate

information and the precise tools to match their requirements. I am happy to say that I think we achieved that goal.'

Mr Olesh was also happy with the event. 'This event was a pivotal opportunity to further strengthen Waves' continuing and significant enthusiasm towards strengthening our valued relationship with the region's partners, decisively making sure they receive the utmost in support, tools and vital hands-on experience to understand the array of beneficial aspects of Waves' arsenal of software and hardware.'

www.waves.com

Barnfind opens Beijing office

CHINA: Norwegian fibre transport solutions manufacturer Barnfind Technologies has partnered with its Chinese distributor, Digi-Red Electronic Equipment, to open a new office in China as part of its plans to expand in the Asia Pacific region. The office, located in Beijing, will provide customer support, service and sales for Barnfind's broadcast, cable, satellite, OTT and telecom customers across APAC.

'After seeing continuous and successful sales growth in China and the overall Asia Pacific market, Barnfind is very excited to open the doors of our newest office, expand our service and support and bring our advanced technology solutions to customers in this market,' said Barnfind CEO Wiggo Evensen. 'In addition, the new office will serve as a Barnfind warehouse and service hub for any other Asian countries in need of our services.'

Elaine Sun serves as Barnfind's sales manager in China. 'For years, Barnfind has been establishing itself in the Chinese market,' she commented. 'With this new office, we have taken a very important step forward to increase our presence in this important region and address customer needs more efficiently and effectively.'

www.barnfind.no

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TPP advances with S7

SINGAPORE: Over the past 21 years, The Production People (TPP) has grown to become one of the most respected technical production companies in Singapore. Its inventory of rider-friendly hardware continues to swell within its Yishun facility, including speaker systems from Alcons, d&b audiotechnik and Quest, together with Allen & Heath, DiGiCo, Midas and Yamaha consoles. With the equipment rarely having time to rest and gather dust, director Sheldon Gooi opted to play it safe and invest in a new loudspeaker system.

'As a company we've grown over the years, maturing from plug-and-play systems to full line array setups,' commented Mr Gooi. 'As most of our speakers are now 10 years old, it was time to reinvest; however, we faced a dilemma as the quality of speakers available on the market is extremely high. We've never been one to follow the pack, so TPP opted to



L-R: TPP director Sheldon Gooi with Adamson's Marc Bertrand, Ayumi Hanano and Ben Millson, confirms the large S7 order at the recent Prolight + Sound

acquire an extensive Adamson S7 system.'

The order is made up of 24 S7 two-way line array cabinets, 16 S118 single 18-inch subwoofers, six E119 single 19-inch subwoofers, eight S7p point source models, amplification, rigging and hardware – confirming

that the Canadian manufacturer has indeed landed in the Lion State. Comprising dual ND7-LM16 kevlar neodymium drivers and a 1.4-inch exit compression driver, the S7's sound chamber produces a slightly curved wavefront with a nominal dispersion pattern of 100°H x 12.5°V.

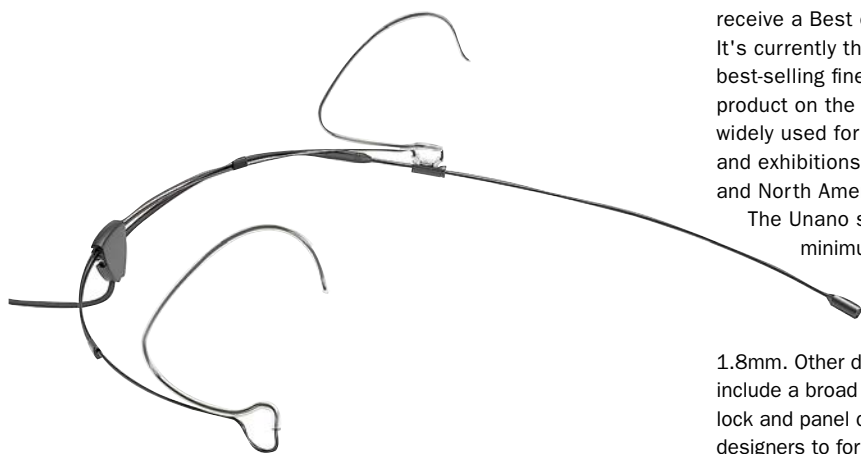
'Not only is the S7 extremely powerful, providing a maximum SPL of 138dB, its 16kg weight and compact footprint (122mm h x 527mm w x 411mm d) makes it ideal for the large numbers of corporate and private events that we cater for,' said Mr Gooi. 'The equally compact subwoofers extend

the low frequencies down to 35Hz. In terms of versatility, the S7 can be deployed as a line array and the S7P as a point source system, from single pole-mounted cabinets to a full 12-per-side L-R system, pretty quickly and with minimal crew.'

Based in Chiang Mai, Adamson Asia Pacific MD Ben Millson is looking forward to working with TPP in Singapore. 'The Adamson brand is very strong throughout the APAC region, but has lacked the same penetration into the Singaporean market until now,' he explained. 'To be represented by such a prominent rental partner as TPP now provides Adamson with excellent visibility and a huge audience that has rarely been exposed to our technologies. These are exciting times and I'm sure that we will be extending the rental partner network in due course in Singapore.'

www.adamsonsystems.com
www.tpp.com.sg

Red Dot Awards for pro AV manufacturers



DPA 6066 Headset Mic

WORLD: Among the recipients of this year's Red Dot Awards are d&b audiotechnik's KSL System, DPA Microphones' d:fine Core 6066 Subminiature headset microphone, and Unilumin's premium 1mm rental and fine pitch

LED display, Unano. Of the 5,500 products entered, only 6% receive a Red Dot Award, while the top 1%, which includes Unano in 2019, are named 'Best of the Best'. Unano has built a high profile in the fine pitch rental market and is

the first LED display product to receive a Best of the Best badge. It's currently thought to be the best-selling fine pitch rental product on the market and is widely used for corporate events and exhibitions across Europe and North America.

The Unano series broke the minimum record for pixel pitch in the rental industry at 1.3mm and 1.8mm. Other design details include a broad holder, adjustable lock and panel design that allows designers to form an 'X'.

The Red Dot for the KSL System marks the second design award presented to a member of the German manufacturer's SL-Series, as the GSL was awarded a Focus Open Gold prize in 2018, and the second time that d&b has scooped a Red Dot, as its D80 amplifier was a recipient in 2014.



Unano

'Design is evolving to a category in which d&b systems also demonstrate their exceptional performance,' says Amnon Harman, CEO of d&b audiotechnik. 'We constantly endeavour to elevate the quality of sound and make our systems as easy to use as possible. Outstanding design contributes significantly to the benefits our customers derive

from investing in d&b systems and solutions.'

DPA CEO Kalle Hvidt Nielsen is thrilled to be recognised by Red Dot's expert product design jury. 'This is an incredible endorsement for DPA's R&D team, which spent many months developing our 6000 Series microphone capsule – the smallest microphones we have ever made – and working with customers in various industry sectors to perfect a headset that is secure, lightweight, unobtrusive, easy to fit and extremely comfortable to wear,' he said. 'Winning this award is a massive endorsement and we couldn't be more pleased.'

The Red Dot Awards will be formally presented at the Aalto Theater in Essen, Germany on 8 July.

www.dbaudio.com
www.dpamicrophones.com
www.red-dot.org
www.unilumin.com

TSL Products buys out DNF Controls

WORLD: TSL Products has bought out DNF Controls, an American manufacturer of device control interfaces. TSL plans to use the acquisition to expand its presence in the global broadcast control systems market, while also offering audio and power solutions locally in the Americas.

'DNF's relationship with TSL Products grew to an OEM agreement in May 2018, and we are thrilled that it has now grown further into the companies fully uniting,' said DNF's founder and CEO, Dan Fogel.

'The acquisition will provide a wider offering for our current customers while also introducing

our products to new markets globally.'

While DNF customers in the US gain better access to TSL's product range, TSL customers around the world will be able to source DNF's dedicated hardware control panel and integration capabilities.

'We are excited to work together as one with DNF Controls,' said

Chris Exelby, managing director of TSL Products. 'Our values and mission are aligned in the strong belief of empowering the end-user to have complete control of their system. We can now accomplish this by providing the most modern, compatible, expandable system available, and by offering a wide range of

user-friendly controllers, panels and virtual interfaces. Both TSL and DNF are built from strong engineering roots and have a combined 60+ years in delivering systems for customers worldwide.'

www.dnfcontrols.com
www.tslproducts.com



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Soundking establishes Beijing company



CHINA: Ningbo Soundking Group has launched its second joint-stock company: Soundking (Beijing) Electroacoustic Technology Co Ltd. The company was inaugurated during

a special ceremony officiated by Soundking president Wang Xianggui and vice president Jesse Chen, and was revealed to be the first of several local companies.

The group reportedly invested RMB10 million into starting Soundking (Beijing) Electroacoustic Technology. The Beijing-based joint-stock company is expected to play a vital strategic role in the development of the group in the region. Its premises includes an impressive 800m² demo space for products aimed at stadiums, cinemas, conference rooms and theatres.

'This is a high-quality platform for Soundking in terms of innovation, entrepreneurship, talent and partnerships,' said Mr Wang. He then went on to reveal, 'This year, Soundking will establish 10 joint-stock branches in China to attract talent in the industry to join us.'

It is not only China that Soundking has its sights set on, as another Soundking subsidiary is preparing to open in its doors in Frankfurt. An Australian branch is also said to be in the works.

www.soundking.com

Christie partners with TSR in India

INDIA: TSR Prova has been appointed as an integration partner for Christie's RGB cinema projectors featuring RealLaser illumination technology. As an official integration partner, TSR will assist Christie in penetrating the Indian market with its latest cinema products.

'India's rapidly growing economy is fuelled in part by an active and growing entertainment sector, as witnessed by the massive number of movies it produces and more than 10,000 cinema screens – many of them single or dual installations serving as the main social gathering place within their communities,' said Don Shaw, Christie's senior director of sales – digital cinema for Asia Pacific. 'Indian movie-goers are very discerning and they want reliable, punctual showings, with the highest visual acuity, and

that's where Christie and TSR can deliver like no other vendors can.'

It was the RealLaser technology, as well as Christie's Vive Audio solutions, that impressed TSR's principal, Tan Sri Dato Sri Dr Ramaswamy. 'We are delighted with the prospects ahead of us to grow our combined share of the Indian market, armed with the leading-edge cinema solutions that Christie is rolling out,' he said. 'We have a definite sweet spot with small- to mid-sized auditoriums that desire a 2K option [with the CP2315-RGB and CP2320-RGB], and it's good to know that, for premium large format venues, Christie can also deliver with the current CP4325-RGB 4K cinema projector and upcoming larger models.'

www.christiedigital.com

Absen re-signs with the Chinese Football Association

CHINA: The Chinese Football Association Super League's (CSL) 2019 season has kicked off. For the third year in a row, Absen has been chosen as the official LED display supplier, including perimeter advertising displays. Over the past two seasons, Absen has offered its services at 480

CSL games across 16 different stadiums.

'The CSL is the country's top-tier club competition; I am very proud seeing our team onsite and our products performing so well, as we continue to consistently provide premium, quality LED solutions for sports events worldwide,' said



CSL First round – Shanghai Greenland vs Shanghai SIPG

Absen vice president, Dennis Ren. 'Quality lies at the heart of everything we do. High-quality perimeter LED displays secure reliable and excellent visual performance, promote the CSL image and create more ROI for its sponsors.'

Absen has also been involved in the Chinese FA Cup, a knockout cup competition run by the Chinese Football Association and involves CSL teams. In 2018, Absen provided perimeter display solutions for 16 Chinese FA Cup games and will continue to do so until 2021.

www.absen.com

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ALLEN & HEATH

Melodia brings Superfly to Indonesia

INDONESIA: Melodia Sound & Lighting Systems, Outline's distributor for Indonesia, has bolstered its large Outline inventory with the manufacturer's latest line array system, Superfly. The purchase includes 16 Superfly modules.

Melodia first invested in Outline Butterfly line array back in 2005, and over the years subsequently added Mantas, Mini-COM.P.A.S.S., DVS, Eidos 265, GTO, GTO C-12 and Stadia systems to its stock. 'The Butterfly system has been the benchmark of Outline for many years. Now Superfly has taken over its legacy and extended its superior quality,' commented Melodia's founder Rudy Winarto.



'Having witnessed its stunning performance for its size, I had no arguments. The high SPL and wide frequency range were amazing.'

The Superfly cabinets were put to use at a launch event in Surabaya at the beginning of

February. 'The artist performing during our launch was really impressed and satisfied with the performance of the Superfly main PA,' noted Mr Winarto.

www.instagram.com/melodiaproduction
www.outline.it

KV2 VHD5.0 launches in China



CHINA: KV2 Audio and its Chinese distributor, AVMedia, introduced the new VHD5.0 large-format concert system to the Asian market during this year's Prolight + Sound Guangzhou, with demonstrations staged at a secluded location away from the exhibition centre, offering an open area without SPL limitations.

To demonstrate the VHD5.0 system, which comprises VHD5.0 mid-high modules and VHD8.10 low-mid expansions, KV2 hired a band to perform two sets during each day of Prolight + Sound Guangzhou. Two VHD5.0 systems were flown in an L-R configuration, with an SL4.12 beneath each providing down-fill. For low-end extension, five VHD4.21 subwoofers, also making their Chinese debut, lined the front of the stage. The band made use of an ESM12 monitoring system.

KV2's sales director for Asia and North America, Dave Croxton, technical projects director Andy Austin Brown and technical support director for Asia, Angus Davidson, led the demonstrations, which attracted approximately 800 people, including representatives



from KV2's distributors in South Korea, Vietnam and Malaysia. AVMedia's general manager Jason Shi and chief technical engineer Bruce Wang provided support and interacted with potential Chinese customers.

'Our launch of VHD5.0 in China has been an outstanding success,' said Mr Croxton. 'Apart from

the huge attendance of Chinese customers we had visitors from most of Asia including South Korea, Singapore, Indonesia, Myanmar and the Philippines. There is strong interest in the VHD5.0; we have had representatives from a wide range of industry sectors listening to the system, from live production companies at one end of the scale right through to large club installations at the other end. Given the outstanding take-up of VHD2.0 in China, I am confident that VHD5.0 will also become a strong contender in the large-format sound reinforcement market here.'

Mr Davidson commented on AVMedia's support. 'They have been an amazing distributor for us; they really understand the KV2 technology and have done a great job of taking the brand into China and building awareness of it.'

Discussing the VHD5.0, Mr Davidson added, 'Large-format point source creates a completely different sound to a lot of conventional systems that people are using. It has a lot of big advantages in terms of clarity, musicality, and one of the things people don't realise is that outdoors, like this demonstration, where there is a lot of wind, it's not affected because it's point source, so you don't get a lot of issues you might have with other conventional systems. When you walk from one side to the other and from front to back there is almost no change in the sound; it is very linear.'

www.kv2audio.com

Vue Audiotechnik recognises Vue China achievements

CHINA: Vue China has been presented with the award for Best Sales Team by Vue Audiotechnik CEO Ken Berger at the recent PL+S Show in Guangzhou.

'We're ecstatic that we've been able to establish and grow the Vue China operation so fast,' commented Mr Berger. 'In one year we've established ourselves with four or five major rental companies and done a number of projects and festivals together. We're very excited

Vue China president Gu Jiren added. 'We have worked hard for nine months to achieve these results and it's a credit to the entire Vue China team. As sales increase, we plan to further strengthen our technical support capabilities and expand the technical team.'

According to Mr Berger, in addition to growing in the rental market Vue China also intends to do more project work in the theatre, arena and installation segments. Further initiatives



L-R: Vue China president Gu Jiren and Vue Audiotechnik's Ken Berger

about what they've been able to accomplish in 2018 and we expect even more growth this year. There are a number of projects lined up with Vue in Shanghai, and to go from a start-up to effectively becoming a major force in the market is why we've given them this award.'

'I noticed Vue when they first established the brand in 2012 and although it's a young brand, it's recognised by many professionals and I'm very confident about the quality,'

in 2019 include targeting the dance club market, for which 'we have some very exciting new products coming out, and we expect China to be a leader in all those markets. We're also expanding our team here with the recent appointment of Tony [Sawyer] based out of Manila taking on tech support for China, Asia and the Pacific Rim, so we're expanding, not just our partners but also our presence to support those partners.'

www.vueaudio.com

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Amate brings the X212AF to Vietnam and Korea

ASIA: Amate Audio recently conducted distributor training and presented launch events in Hanoi and Seoul for its X212AF high-performance large format line array with its Vietnamese and Korean distributors, Van Lam Audio and Daelim Musical Instruments, respectively. First unveiled at ISE, the X212AF is the latest addition to the Xcellence series and incorporates the Spanish manufacturer's Active+ integrated power and control platform, which provides 4000W of Class-D amplification as well as advanced control parameters such as FIR/IIR. The X218WF subwoofer was also shipped out to both distributors in preparation for these events.

'Our distributors are already very familiar with our active integrated power and processing designs, from earlier Xcellence series models and our new Nífid series systems,' explained the manufacturer's vice president and chief technical officer, Joan Amate. 'Active+ is a further advance in the implementation of our power and control platform; providing extensive, rapidly achievable set up and tuning capabilities and superior sonic performance from a large format line array.'



Joan and Jordi Amate with the Van Lam Audio technical team

Joan Amate and international sales manager Jordi Amate first travelled to Vietnam for two days of training and a demonstration of the new systems. The Van Lam Audio team were taught the design, performance and operational features of the systems, as well as how to deploy them. Once the Amates left, Van Lam Audio conducted what was the first outdoor demonstration of the X212AF and X218WF to potential customers. 'With 12 X212AFs and six X218WFs, the system really brought an impressive experience,' said Van Lam Audio director Nguyen Duc Cuong. 'The

immediate impression is the physical scale, compared with the X210, providing a large format line array for really big arenas and stadiums. The sound quality is excellent, with very impressive sound pressure and smooth coverage.'

Meanwhile, in Seoul, the Amate Audio duo spent three days with Daelim Musical Instruments, conducting indoor and outdoor live demonstrations, and training seminars. The distributor had already made sales of 16 X212AF and eight X218W systems to a pair of rental companies – Handasa Sound Company and Mi Sung

Sound – and so the training was also given to their teams as part of the handover.

'Once the system was rigged in place, set up time with the Active+ pre-sets was less than 90 minutes,' said Joan Amate. 'With the pre-set configurations, optimum performance was easily achieved and no further equalising required. This was a first auditioning of the system for these customers; they had committed to ordering the system on the say-so of Daelim Musical Instruments' engineers who had visited our R&D facilities in Barcelona for an early look at preproduction samples last year. Mi Sung Sound and Handasa

Sound Company were extremely impressed with the quality and performance. And Daelim's team was further impressed that the final production system sounded even better than the prototype they had heard.'

On the third day in Seoul, three other rental companies were invited to participate. Approximately 130 attendees listened to a flown eight-per-side X212AF system with eight X218WF subs controlled using DiGiCo, Soundcraft VI Series, PreSonus and Midas M32 consoles.

www.amateaudio.com



The Seoul demonstration with Daelim Musical Instruments

NewTek acquired by Vizrt

WORLD: Vizrt (Visualization in Real-Time or Visual Artist), a Norwegian developer of real-time 3D graphics, studio automation, sports analysis and asset management tools, has acquired Texas-based IP-based, software-driven live video production solutions manufacturer NewTek. Combined, Vizrt and NewTek form 'the largest company in the broadcast space that is dedicated to enabling IT based video production'.

'Combining our organisations allow us to pursue our joint vision of software-based video production, leveraging the power and flexibility of computing and IT-based systems,' said Michael Hallén, Vizrt CEO and president. 'The combined business will be very well positioned to deliver turnkey systems that give creative power to any organisation that has ambitions of producing content for any output platform.'

While Mr Hallén will lead the business, NewTek's president

and CEO, Andrew Cross, will become president of R&D at the combined company. 'Taking advantage of computational, software, and network technology to make video more accessible, and fun to create has always been NewTek's mission,' Dr Cross commented. 'These changes have revolutionised the way stories are told worldwide, allowing anyone to create and share a show. The tools from our two companies have fueled the video revolution – from kids in classrooms, little league games, and web shows, to the highest levels of broadcasting, news and sports. The combined company represents one of the most disruptive changes for the video industry in decades, however the goal remains the same – to build a new world of IT-based video technology to grow the reach and impact for anyone with a story to share.'

www.netwek.com
www.vizrt.com

ADAM Audio turns 20

WORLD: ADAM Audio has celebrated its 20th anniversary in 2019. Established in 1999 in Berlin, the German pro audio manufacturer became widely known in the 2000s due to the popularity of its ART tweeter. 'We're very happy and, of course,

also a bit proud that our studio monitors have been part of countless music productions over the last 20 years,' said CEO, Christian Hellinger. 'Our ART tweeter still reveals details, even to experienced audio engineers, that the listener hasn't heard

before. The X-ART and S-ART tweeters are still made by hand at our HQ in Berlin. But they're far from being the only ADAM Audio innovation. Years of research and development continue to result in future-oriented technologies, such as our new driver concepts, digital signal processing and software solutions.'

Mr Hellinger added that because ADAM Audio remained independent, it had the ability to react to customer expectations and demand quickly. 'Because our company isn't embedded in a larger corporation, we can concentrate completely on developing studio monitors and other pro audio products,' he said.

'The most important driver for our development was and is our excellent team who are passionate about our aspiration to develop, build and distribute the best studio monitors. Our customers have now trusted us for 20 years, showing us that we're on the right path.'

www.adam-audio.com/en/20yearsadamaudio



Christian Hellinger

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l-acoustics.com



Meyer Sound's Leo family showcased in Mumbai

INDIA: Sun Infonet recently partnered with Meyer Sound to host a demonstration of the manufacturer's Leo family, including Lina and Leopard line array cabinets, at Mumbai's St Andrews Auditorium. The event was well-attended by sound engineers and rental company owners.

Meyer Sound's SAARC sales manager, Sandeep Braganza, and technical support specialist, Rahul Samuel, led the demonstrations, which also included the compact 750-LFC, 900-LFC and 1100-LFC speakers, as well as MJF-212A stage monitors and UPQ fills, all of

which were run in Native mode.

'Having our Leo family systems already out on the road with rental companies, this was a great opportunity for us to showcase our Leopard and Lina systems to a broader range of customers,' said Mr Braganza. 'Not only were the attendees amazed with the power and linearity of both systems, but they also appreciated the fact that they could get a complete integrated audio solution right from the design (MAPP) to the final system verification (SIM).'

As Meyer Sound's exclusive Indian distributor, Sun Infonet and its



application team of Rohit Reddy, Tanmay Masurkar and Krishna Prasad were more than satisfied

with the turnout and response that they received from their customers during the event.

'People have always known about Meyer Sound, but had misconceptions that it is a complicated system to run and is expensive,' the Sun Infonet team commented. 'Demonstrating the systems with Native Mode, with absolutely no EQ, really gave our customers the confidence that the systems sound great straight out of the box and they also realised that the overall cost-of-ownership is much lower than other systems in the long run.'

www.meyersound.com

www.suninfonet.net

Riedel and TechSound take on esports market

CHINA: Riedel Communications has joined up with TechSound, a Shanghai-based company specialising in audio for international esports teams. Based on Riedel's Artist digital matrix intercom system, Performer partyline system and MAX headsets, TechSound has designed advanced player communications systems enabling a cost-saving VoIP remote production workflow for esports events across China.

'TechSound is one of the few companies in China using VoIP systems for remote production of esports competitions,' said Gao Jian, general manager at

Riedel China. 'As such, it's the perfect partner for us to expand our presence in the dynamic Asian esports arena. TechSound and its clients can testify to the value of our Artist-based system for delivering the seamless communications critical to running a smooth international event. The evolving technical requirements of esports has become a key driver of China's comms industry, and we're pleased to be supporting TechSound in addressing these requirements and achieving an efficient production workflow for esports competitions across multiple geographic sites.'

For a recent international esports event held in northern China, the Riedel solution enabled TechSound team members to integrate intercom, wireless, and walkie-talkie systems from different rental vendors and manufacturers into one communications system. TechSound also manages semi-permanently installed season systems, connecting stage referees and players across six Chinese cities back to a centralised production studio.

'With the Riedel solution, our producers can sit in Shanghai and call shows in other cities,' said Patrick McGowan, director at



L-R: Gao Jian from Riedel China; Patrick McGowan of TechSound; Cameron O'Neill from Riedel; and Raymond Wang, TechSound

TechSound. 'Direct communication with on-stage referees at different venues allows for a remote workflow that saves on hotel and flight costs. In addition, the solution integrates well with other

production tools, so we can easily add further studios or sites to the production.'

www.riedel.net

www.techsound.audio

Adamson S-Series penetrates Indian rental market

INDIA: Adamson's Indian distributor, AVCL Pro, has confirmed S-Series sales to New Delhi-based production company Royal Entertainer and Mumbai-based rental company Brian Sound. Meanwhile, Sound.com, which previously invested in 48 Adamson S10 full-range cabinets, 16 E119 subwoofers and eight S119 subs, has followed up with a purchase of 30 E15 line arrays, six E12 enclosures, 64 E119 subwoofers, 24 M15 monitors and 12 S7 line arrays with four S118 subwoofers.

'The Adamson rigs are fantastic,' commented Sound.com's founder and managing director, Warren D'souza. 'We have used them on shows three times now and the sound is just incredible. We are proud to be the first E-Series and S7 adopters in India. The addition of the S7 cabinet makes configuration options very flexible. With the growing Adamson fan base, it only made sense to expand our inventory.'



Royal Entertainer with its Adamson delivery

Brian Sound bought S10 line array loudspeakers and S119 subwoofers with Lab.gruppen PLM12K44 amplifiers for power. 'We were looking to upgrade our existing line array and had researched all of the leading

brands currently on the market,' explained Brian Menezes of Brian Sound. 'We trialled the Adamson S10 during a shootout in Mumbai, and it really stood out as the ideal system for us, with exceptional sound quality, easy rigging and

comparable power while being smaller and lighter.'

AVCL Pro invited Mr Menezes and the Brian Sound team to take part in Adamson Applied Certification training, conducted by the manufacturer.

'We value the support we've already received from AVCL and Adamson,' added Mr Menezes. 'Having so much expertise and experience backing us made us even more certain that we made the right choice in making the move to Adamson.'

Royal Entertainer also added S10 line array speakers and S119 subwoofers to its inventory. This sale was facilitated by Eshdeep Bhasin from LBT Electronics. 'This system is a major plus over some of the bulky boxes we have had in our inventory,' said Sunny Singh, owner of Royal Entertainer. 'We are thrilled that Adamson provides us astounding power in a compact lightweight package and scales incredibly well. We believe in bringing the best to our clients and the S10 checks the box completely.'

www.adamsonsystems.com

www.avclpro.com

www.lbtpro.in

www.online-sound.com

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G4 launches in Indonesia

INDONESIA: Sennheiser has launched its G4 evolution wireless series in Indonesia at a closed event for distributors and dealers at the Pullman Hotel Jakarta. The Indonesia launch on February 20th follows a succession of unveilings from the manufacturer throughout countries in South East Asia.

The manufacturer successfully released the G4 in Thailand late last year in partnership with distributors Petchsiam Sound Group (PSG) and Soheto Thailand. A series of events took place to showcase Sennheiser's G4 100

Series, G4 300 Series, G4 500 Series and IEM series for live performances carried by PSG. Soheto Thailand demonstrated the use of the G4 300 Series, G4100P and G4500P Series for broadcast, film, business and education. During the event – attendees were treated with presentations of the G4 product line and a sit-down interview and review with end-users who have already had a taste of the product first-hand, as well as band and vocal performances.

On the launch, Roland Lim, vice president, pro audio solutions

at Sennheiser Asia, said: 'When we set out to create the evolution wireless G4, we had three criteria in mind: simplicity, flexibility and reliability. The 4th generation of Sennheiser's most popular range truly grows and evolves with each end-user, whether it's live sound, broadcast, film, education or business. Offering zero compromises in transmission, and a fuss-free set up process.'

www.sennheiser.com

www.soheto.co.th

www.petchsiamsound.com

Chameleon integrates with Maestro

WORLD: Bannister Lake has entered into a non-exclusive sales, marketing and distribution agreement with Avid that will see the former's Chameleon data aggregation and management solution integrated into Avid's Maestro Graphics. This will enable Maestro users to more easily aggregate, moderate and populate data-driven graphics for news, sports and financial productions.

The Chameleon solution is capable of reading, ingesting and managing multiple diverse data feeds through an advanced web interface, providing users with control over both incoming data and output formats. Customised data is imported into graphic templates directly or through Chameleon's RESTful API for use in news, sports, elections, financial and other content genres, and can also be imported into augmented reality and virtual reality products, as well as IP-based solutions.

'We are excited about bringing Bannister Lake's wealth of data knowledge and expertise into the Avid ecosystem,' said Ofir Benovici, Avid's vice president of media enterprise.

'As live and static data play an increasingly important role in the production process, our end-users will realise greater value through more efficient workflows, better storytelling and the opportunity to secure new business.'

'Avid is a natural fit for our data aggregation solutions,' added Georg Hentsch, president of Bannister Lake. 'Not only will Avid customers be able to do more with their graphics, they will have the opportunity to leverage data in all kinds of ways that were previously unavailable. We look forward to a long and innovative relationship with Avid.'

www.avid.com

www.bannisterlake.com

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Ecler devises new ranges

WORLD: Ecler Pro Audio has created two new product divisions: Ecler Acoustics and Ecler Video Systems. The Spanish manufacturer has developed these with systems integrators primarily in mind.

'As a professional audio brand we have been around for 54 years,' said Lluís Hinojar, sales director at Ecler. 'Our objective is to provide complete solutions to system integrators, based on an innovative, ergonomic and sustainable approach. Therefore it was a natural step to extend our know-how to video as well.'

As a result, the EclerNet Manager software platform has now become a control tool for video solutions, as well as audio. 'We understand that our strength in pro AV relies on signal management and remote control,'

noted Mr Hinojar. 'The Ecler Video Systems range offers solutions such as HDMI management and distribution. Not only that, but it's also smartly integrated with EclerNet and User Control Panels (UCP) graphical control screens, achieving a higher level of integration between both ranges of Ecler products. Summing up, the strategy is to be a one-stop supplier for systems integrators, and our aim is to offer a unique software platform (EclerNet Manager) to control both Ecler audio and video solutions.'

The Ecler Acoustics range was formed as a solution for challenging acoustic environments. 'Even though our audio solutions are of a good quality, sometimes the acoustics of a venue doesn't help in achieving an optimum result,' said Mr Hinojar. 'Therefore

acoustic treatment becomes necessary. Ecler Acoustics aims to be a perfect match between acoustic absorption and our audio solutions.'

Mr Hinojar added that Ecler uses sustainable, recyclable materials in its Acoustics range. Various solutions are available that have been designed for easy installation. 'We feature just three references offering a great versatility thanks to a fantastic design, and we can create different compositions.'

Ecler also anticipates that the Acoustics division will open the door to new business areas. 'New sales channels could be driven by other kinds of projects, resulting in new types of customers in specific cases,' added Mr Hinojar.

www.ecler.com

IBC aligns conference and exhibition

WORLD: IBC (The International Broadcasting Convention) has announced that its conference and exhibition will each take place over the same days, 13–17 September, in 2019. In previous

and conference so that they will now both take place from Friday 13 September – Tuesday 17 September 2019,' confirmed IBC's head of marketing James Laker. 'The IBC press office and



years, while there has been an overlap, the conference has started a day before the exhibition begins and ended a day before the show closes.

'Having consulted with the industry we have decided to align the dates of the exhibition

onsite registration will now open on Thursday 12 September from 8.30am and will not be open on the Wednesday as in previous years.'

IBC takes place once again at the RAI Amsterdam.

show.ibc.org

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Void Acoustics experience centre opens in Guangzhou

CHINA: UK loudspeaker manufacturer Void Acoustics, in collaboration with its exclusive distributor in Mainland China, Hong Kong and Macau, Beijing Pacific Budee Technology Development (Budee), has opened an experience centre in Panyu, Guangzhou. Budee worked alongside its dealer for Void in the entertainment sector, Guangdong Yicheng Culture Technology, to make the experience centre a reality.

'Panyu is the supply centre for the entertainment market,' said Budee's sales director, Patrick Lau. 'All types of speaker brands have set up product showrooms in Panyu to allow entertainment venue owners to listen to their

products. Therefore, we have cooperated with our dealer Yicheng Culture to build this experience centre to provide a place for the customer to experience Void Acoustics' products.'

The experience centre spans more than 400m², including a 100m² showroom that showcases a wide range of Void Acoustics solutions, including the Incubus, Nexus, Air and Arcline series.

'Void is very popular in clubs in Europe and the United States, especially for clubs featuring EDM music,' Mr Lau continued. 'Budee will provide full support for the brand's promotion in China. It can be a good choice for entertainment venue investors if they think the



regular black wooden box is too boring.'

Li Haishuo, general manager of Guangdong Yicheng Culture

Technology, was certainly first attracted to Void because of the unique appearance of some of its systems. 'I saw Void Acoustics

for the first time at the 2018 GETShow,' he said. 'I was first attracted by its appearance, and then tried to listen to its sound and found that both its sound and design concept are very suitable for EDM music, which is extremely popular in the Chinese entertainment market.'

Commenting on the new experience centre and its Panyu location, Mr Haishuo added, 'This is an industrial park, which can allow for sound demonstrations at any time of day with no SPL limit, which meets the needs of customers who want to listen to the products at any time.'

www.voidacoustics.com

Cinema 21 invests in 100 more Christie projectors

INDONESIA: Indonesia's largest cinema chain, Cinema 21, has made a further investment in Christie's CP4325-RGB pure laser cinema projectors, acquiring an additional 100 units. Cinema 21 originally purchased 50 CP4325-RGB projectors upon their launch in 2018. Now, with a total of 150 units, Cinema 21 possesses Asia's

largest fleet of Christie cinema projectors equipped with RealLaser illumination technology.

'Having put the Christie CP4325-RGB cinema projector through its paces and being very impressed with its performance, we are convinced that Christie's RGB pure laser projector is the future of cinema projection and this is

exactly what we require to elevate the cinematic visual experience for movie-goers to a whole new level,' commented Cinema 21 executive chairman, Suryo Suherman.

'This second investment also underscores our confidence in the Christie RealLaser family of cinema projectors, enabling us to stay at the forefront of technology as we



Christie's CP4325-RGB

continue with our quest to expand our footprint across the country.'

Lin Yu, Christie's VP for cinema sales in Asia, noted that the

manufacturer has enjoyed a working relationship with Cinema 21 and its affiliate, PT Megatech Engineering, for more than a decade. 'I'm glad that our robust relationship has paved the way for the deployment of the best cinema projection technology available today,' she said. 'With this acquisition, Cinema 21 will be able to deliver spectacular cinematic experiences to wider audiences in Indonesia.'

www.christiedigital.com

IRAA awards introduces new categories and jury members

INDIA: Details have been revealed for the 13th edition of the Indian Recording Arts Academy Awards (IRAA), which will take place at the Bombay Exhibition Centre on the final day of this year's Palm Expo, 1 June 2019.

All members of the jury from last year's edition will return, and be joined by two new members in Avid's pro audio production team, specialist Sreejesh Nair

and Shantanu Hudlikar, chief sound engineer at YRF Studio. Anil Chopra, IRAA's founder and executive chairman, honorary chairman Pramod Chandorkar and Mujeeb Dadarkar, award director for IRAA 2019, will lead the panel, which includes a who's who of top audio engineers, music producers and arrangers from across India. The other members of the jury are: Aditya Modi, Ashish Saksena,

Bishwadeep Chatterjee, Indrajit Sharma, Jim Satya, Sreejesh Nair, Shantanu Hudlikar, Vijay Bengal, Vijay Dayal and Yogesh Pradhan.

As well as new members on the jury, the 13th IRAA will introduce new categories. These new categories have been created to reflect the increasing amount of work being done across studios for online streaming services such as Netflix and Amazon

Prime. The new categories will present awards for Sync Sound Recording, Sound Designer, Dialogue Editor, Sound Editor Effects and Ambience, and Music Producer for work done in web series. Two versions of each web series awards will be given out: one in Hindi, the other in a regional dialect.

The jury has also made existing categories in audio engineering,

postproduction and music production open to nominations for content created for web services.

Those who attended last year's IRAA awards were treated to a surprise appearance by AR Rahman. What surprises will the IRAA organisers have in store this year?

www.palmexpo.in

Riedel invests in EvoCount

WORLD: Riedel has acquired shares in EvoCount, a specialist in real-time digital visitor counting, live monitoring of visitor flow solutions, as it looks to boost its event technology portfolio. With this investment, Riedel gains expertise in hardware- and software-based participant management and engagement tools, complementing its rental business.

'Guest management has become a core element of every major event,' said Marco Kraft, head



Riedel and EvoCount at PL+S 2019

of sales in Germany at Riedel Communications. 'With the

services of our new partner, EvoCount, we have again

expanded our range of digital event solutions and optimised our ability to align all processes and services comprehensively in the event sector. Riedel continues to invest in the future and is working to develop even more synergies for our customers worldwide.'

While Riedel will distribute EvoCount solutions through its rental organisation, both companies remain autonomous and continue to offer their products independently.

'This collaboration provides us with an excellent basis for further expansion in the global events market,' said Tim Mertel-Blinn, co-founder of EvoCount.

Fellow co-founder Till Theato added: 'EvoCount's customers include organisers of festivals and public events as well as exhibition stand operators and companies that use our systems for intelligent building management.'

www.evocount.de
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TMB banks on Sonos Libra to enhance AGMs

THAILAND: Having started operations in 1957 in Bangkok, the Thai Military Bank was founded to provide exclusive financial services for military units and personnel. With subsequent development and growth, the bank was renamed to TMB in 1994 to more accurately reflect its changed status to a public limited company and relocated to its current headquarters on Phahon Yothin Road in which a seventh floor auditorium is used for functions such as annual general meetings (AGMs) of shareholders.

TMB recently enlisted the services of its maintenance and service contractor Multiline Professional to provide a new loudspeaker solution in the



TMB HQ on Phahon Yothin Road



Nine Adamson IS7 speakers provide even dispersion



The 498-seat auditorium has a depth of 15m from the lip of the stage to the rear wall

auditorium, hence replacing the Ramsa system that had been in situ for 25 years. In turn Multiline Professional requested the services of Thai distributor Sonos Libra to provide a design for the fan-shaped auditorium with its 498 seats requiring a wide dispersion speaker system. The challenge was to provide even SPLs across its wide diameter, in addition to sensitively containing them to the audience area located

within the 15m stage-to-rear wall distance.

'When Sonos Libra was asked to create a design for this room, I immediately thought that a point source would be the right solution,' commented Sonos Libra chief Alfonso Martín. 'The wide shape of the auditorium coupled with the low ceiling height rules out a conventional line array system.' Following room calibration and EASE modelling, Martín was

surprised by the revelation that the new Adamson IS7 line array system perfectly fitted the space. Measuring 122mm high x 527mm wide, the dual 7-inch cabinet is not only compact in size – it's powerful.

'When modelled as an L-C-R system with three birch ply cabinets in each array, the projections showed optimal horizontal and vertical dispersion across the entire audience seating.' The Adamson waveguide with its slightly curved wavefront creates a nominal dispersion pattern of 100° x 12.5°. Operating within an 80Hz to 18kHz (±3dB) frequency spectrum, the two-way design's feature set is further enhanced with the addition of Controlled Summation Technology that further eliminates low-mid lobing. Located in both sides of the stage, a total of four IS118 single 18-inch subwoofers provide low frequency extension down to 35Hz when required. The front-fills are catered for by four Point Concentric 5 coaxial loudspeakers

neatly integrated into the lip of the stage, each creating a 70° conical dispersion pattern.

From the mix position located in the dedicated control room at the rear of the seating area, the facility manager can control all the audio parameters from the Allen & Heath dLive C3500 digital console. Audio workflows are managed from the dual 12-inch capacitive touchscreens for which Harmony UI integrates screen and wrap-around controls. The 24-fader digital board features over six layers, built-in audio I/O and a networking port for connection to the dLive DMO MixRack fitted inside the technical rack.

Audio signals are routed from the etherCON ports of the four DX168-W 16-in/4-out expansion units within the venue to the dLive MixRack over a Cat-5e cabling infrastructure. A second locking etherCON port provides daisy chaining and redundancy. Finally, simple facility operations in the form of source selection and volume control can be applied from one small Allen & Heath IP-1 remote control wall plate that interfaces with the dLive mixing system. Wireless control via the

iPad dLive app is provided as well. Dante networking from the microphone points on stage, back of the venue and foyer to the dLive C3500 and is enabled with the addition of six Xilica RIO R22-P I/O surface wall-mount panels located to the sides of the stage.

Mr Martín and his colleague Simon Rains relied upon Smaart 8 analysis and Earthworks calibration microphones to execute the design of the remodelled auditorium. The entire Adamson speaker system is powered by a combination of four D80:4 and D40:4 Lab.gruppen amplifiers, which receive the main signal from the Dante network and an analogue backup. Providing surge protection in addition to one-touch power-on and power-off operations, a pair of PX128B power sequencers has been added to the control room rack. The Shure SLX2 wireless microphone system remains in place, which can be monitored and controlled using Wireless Workbench Manager software.

www.multiline.co.th
www.sonoslibra.com
www.tmbbank.com



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Novatech takes part in Santos Tour Down Under

AUSTRALIA: Novatech Creative Event Technology provided the PA and video screen infrastructure for the Santos Tour Down Under, a UCI World Tour fixture held in Adelaide. The sound setup relied on L-Acoustics Syva loudspeakers, while the visual elements included a ROE Visual CB5 LED screen supported by Brompton Technology Tessera SX40 LED processors.

Novatech deployed L-Acoustics Syva cabinets at 30–50m intervals along the track, using custom stands, with audio distribution via an AVB-based fibre network, to ensure audio coverage at trackside along the start and finish lines, as well as at selected circuits along the course.

The Novatech team had to contend with several challenges, including a same-day set up



The ROE screen was supported by Brompton processors

and strike times, while ensuring the speaker system offered minimal obstructions for the race. Discussing the Syva solution

deployed, Ashley Gabriel, director of sales and marketing at Novatech, said: 'Not only would this supply high-quality, full-range

audio to the crowd, we'd be able to set up and strike on race-day instead of having to run cabling and horns two weeks beforehand. Also, with no ladders or working at heights for our crew, it's a huge safety improvement on previous work practices.'

While Syva is IP54 rated, there was still concern among the team with the enclosures being subjected to the dust and the heat of an Australian summer. Therefore, Novatech worked with L-Acoustics distributor Jands to

making its way via the Ethernet AVB network was processed using L-Acoustics P1 AVB audio processors. Meanwhile, video made its way to large LED screens via Riedel's MediorNet.

'As each Syva is fed by its own dedicated LA4X amp channel, we used Network Manager via a large wireless network to time-align each output using a wireless tablet, meaning you don't get the delay you do with horns, which just added to the intelligibility and clarity of the system,' explained Mr Gabriel. 'The longest circuit we covered was the opening 1.7km stage around Adelaide's Rymill Park, where we used Syva on all four straights and L-Acoustics Kara as in-fills, powered by a combination of LA4X and LA12X amplified controllers.'

On the visual side, the Brompton SX40 LED processors were used to support a ROE Visual CB5 LED screen that adorned a scaffold structure built by Nexstage for team presentations and daily events at Victoria Square in Adelaide.

'We deployed our ROE CB3 and CB5 LED screens at the start and finish lines, with signal transported over fibre via Riedel's MediorNet,' explained Ashley Gabriel, director of sales and marketing at Novatech. 'We used our Brompton SX40 4K and S4 processors; they are quite amazing and we had a lot of comments as to the quality of the screens and the race images. We used our CB5 with airframe and CB3 panels on the event and all performed superbly on the Brompton processors.'

www.bromptontech.com
www.l-acoustics.com
www.ncet.co



Image courtesy of Rosina Possingham

source a custom bracket that provided additional protection. Although temperatures surpassed 40°C, the Syva cabinets, as well as the Kara podium PA system, experienced no issues and needed no additional cooling.

Novatech divided its crew into start and finish teams. Audio

DE360

The new **DE360** ring radiator high frequency driver features a ketone polymer diaphragm with a neodymium magnet motor. Extensive FEA modelling and physical testing over the last several years has culminated in these 1.5 inch (38mm) coil, ring radiator drivers with outstanding sensitivity, high frequency extension, and compactness. A practical recommended crossover point of 1.8kHz and sensitivity of 110dB allow the **DE360** to be suitable for a wide range of applications, including compact two way point source boxes and line arrays.

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Mackie celebrates 30 years

WORLD: In 1989, 30 years ago, Mackie launched its first product: the LM-1602 line mixer. This was soon followed by the CR1604, created to provide an affordable 16-channel mixer for musicians. As it celebrates its 30th birthday, Mackie's catalogue has expanded to include loudspeakers, studio monitors and recording interfaces, among a range of other pro audio systems.

To celebrate, Mackie has produced a short documentary,

detailing the company's history. 'Celebrating 30 years is about recognising our customers around the world that have put their trust in our gear,' said marketing director, Shaunna Krebs. 'Our customers made our success possible, and we look forward to the next 30 years of providing great gear for Mackie fans everywhere.'

www.mackie.com
www.youtube.com/watch?v=ipV6GMz0Rc0&feature=youtu.be



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NZ Sound Reinforcement calls on VTX A Series



Ray Ward with the VTX A8 line array

NEW ZEALAND: NZ Sound Reinforcement recently boosted its rental inventory with an investment of JBL VTX A Series loudspeakers, made through distributor JPro.

The solutions, including VTX A12 and VTX A8 line array elements, were deployed throughout the New Zealand summer for several high profile gigs, such as the Bay Dreams

festival held on the North Island's Mount Maunganui and Nelson on the South Island.

'Bay Dreams was pretty epic,' said NZ Sound co-owner Brenda

Ward. 'The JBL VTX A12 and A8 systems have performed beyond our expectations – they sound amazing. JBL certainly helped the artists to put on some of their best performances and the crowd loved it.'

For Bay Dreams, NZ Sound deployed 24 VTX A12 line array loudspeakers on the main hang and 18 A8 cabinets on side hangs, while 24 VTX G28 subwoofers provided low end coverage. In-fills comprised eight VTX F12 12-inch bi-amplified enclosures. On the stage were 16 VTX M20 and four VTX M22 tour monitors for DJ and drum wedges. A pair of VT4883 subwoofers were used for drum subs with side-fill from two VTX F35 enclosures and a pair of G28 subs. Crown V-Racks with iTech 3500 amplifiers provided the power needed for the setup and JBL HiQnet Performance Manager software offered management and control.

JBL's Line Array Calculator was used during set up.

Set up was quick, as it needed to be with such tight deadlines between venues. 'This is thanks to the VTX A Series new packaging, travel carts and world-leading rigging system, which is far more efficient for transport and set up,' explained JPro's Tim Robertson, who was on hand to provide technical support for the event.

'The new JBL systems have provided an amazing experience for all involved, from the artists and organisers, to the spectators,' added Ray Ward, NZ Sound co-owner. 'The systems have shown impressive coverage outdoors, providing a very smooth and natural top end.'

www.jblpro.com
www.jpro.co.nz
www.nzsound.co.nz

Genie enrols at KTN

KOREA: Korea University Television Network (KTN), an on-campus television network, recently opened a new studio in its media hall. As part of the setup, the studio and control room have been equipped with a LaON Genie intercom system, designed and installed by Kyma Systems. Production company MBC C&I offered consultancy support.

Genie is described by LaON as the first converged digital intercom system, which facilitates both PoE wired and 5GHz wireless communications via a single

base station. The matrix-free and scalable intercom system offers KTN up to 188 IP or wireless beltpack connection channels, allowing for 70 beltpacks to remain in full-duplex mode. This met KTN's requirements for additional grouping channels and multiple routing interfaces.

The installation at KTN includes a BS1000 base station and RA100 remote antenna. Three of the system's routing channels are connected to cameras, an external OB van and PA devices respectively and multiple wireless beltpack



group channels are assigned to the announcers and camera crew,

as well as any other production teams. Following installation, LaON

conducted a training session on the Genie system at KTN. 'And after the training, our client commented that they are satisfied with the various functions of the Genie system as well as the system's scalability,' explained LaON's sales manager, Miyoun Park. 'With our new system, Genie, in addition to wireless beltpacks, Ethernet beltpacks and speaker stations can be additionally configured later without the need for a complicated installation.'

www.laon-tech.com
www.mbccni.co.kr



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A U D I O E X C E L L E N C E

Si adds S appeal

VIETNAM: Hanoi is changing. Some overseas visitors who have previously visited the Vietnamese capital city are pleasantly surprised to learn that they no longer require a visa. Upon landing at the newly built Nội Bài International Airport to the north of the city, they are whisked along a new motorway and bridge spanning the Red River. In order to cater for the growing tourist numbers, Hanoi's municipal administration has gone one stage further by granting restaurants and bars within the Hoàn Kiếm District licences to open until 2am.

18-inch subwoofers. Equally spaced across the length of Si, the point source 12-inch cabinets are equipped with a rotatable 75° x 50° horn and are capable of providing a maximum SPL of 133dB SPL should the DJ take the music to dizzy heights after midnight. 'We considered some other brands, but opted for d&b as it really does provide clean, intelligible audio in high definition,' furthered Mr Trung.

Rather than hide these from the view of Si's Instagram loving,



The S12's unique RAL finish blends in with Si Cuisine & Mixology's décor

chic guests, Mr Trung opted to highlight the cabinets by having

them custom finished in the company's signature colour that

combines red, orange and pink. The unique RAL design certainly blends in with the décor. Systems integrator Stage Professional spent a week on site cabling the loudspeaker system that includes a single M2 dual 12-inch monitor for the DJ and a pair of smaller 5S speakers in the VIP room. A DiGiCo S21 console has been added to the inventory allowing Si to transform into a performance space for one evening each month, showcasing musical acts.

www.dbaudio.com

www.facebook.com/sicuisineandmixology

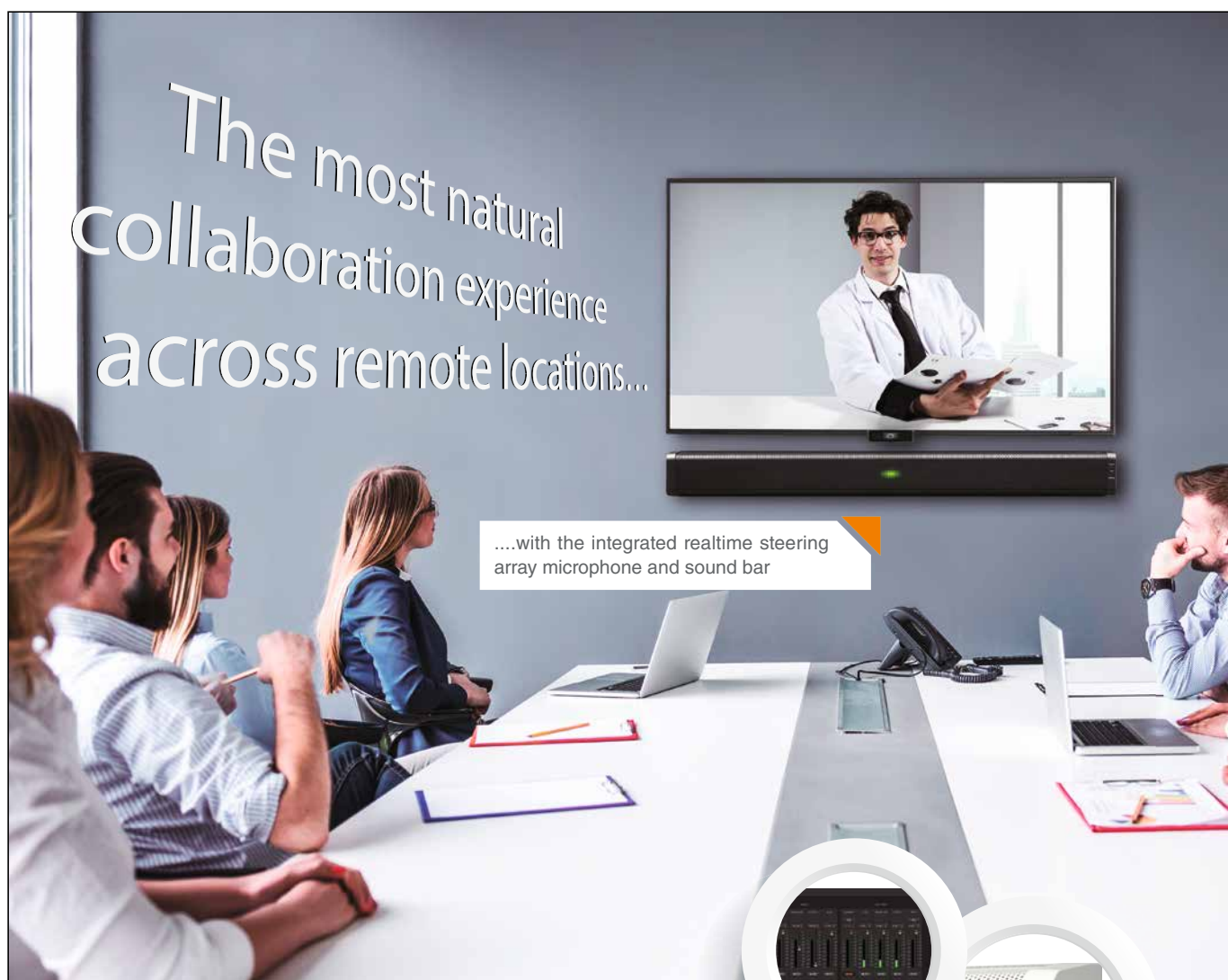


Hanoi entrepreneur Mr Trung with Stage Professional's Mr Hung

Educated at Hamburg University, Hanoi entrepreneur Mr Trung seized on the opportunity by investing in his most expensive and eye-catching entertainment venue to date. Located on the fashionable Hàng Bài, Si Cuisine and Mixology has made its mark. Inspired by Bill Bensley of Bangkok, the venue combines statues, a mouth watering menu, rich furnishings and a number of interactive displays including projection mapping screened onto artwork, rotating mirrors and bottle shelves behind the bar, together with opening and closing lighting fixtures that resemble Venus fly traps.

Audio reinforcement plays an important role in creating the ambience. 'The atmosphere is set from the moment we serve coffees in the morning until last order cocktails are served,' insisted Mr Trung. As an organiser of EDM festivals, he also commands a deep respect for German engineering following his studies and employment in Germany. 'I wanted to install a d&b audiotechnik loudspeaker system into Si – one that would provide added character and further differentiate us from other venues in the district.'

Powered by three 10D amplifiers, a wall-mounted distributed system of eight S12 speakers is supplemented by four floor-standing B6 omni-directional



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TSSL brings Void into the Octagon

JAPAN: Tokyo Sound System Laboratory (TSSL) has installed a Void Acoustics sound solution at one of Tokyo's new nightclubs, Sel Octagon Tokyo. The specialist systems integrator had worked with the nightclub's owner before, deploying a Void Acoustics setup at the Ultra Japan outdoor EDM festival.

The team at TSSL was confident that it could provide a solution to once again impress the client at Octagon. As a division of Void Acoustics' Japanese dealer, eastaudio, TSSL's staff is extremely familiar with the British manufacturer's systems and how best to deploy them.

'The venue has a very complicated shape conducive to difficult acoustic conditions,' explained Satoru 'Tocci' Tochibori of TSSL. 'We are a specialist team with sound engineers that are familiar with Void, as well as sound system and acoustic design engineers that are well versed in all manner of venues, such as concert halls, with unique designs. We suggested not only the selection of equipment, such as the speakers and amplifiers, but also acoustic treatment for the room and the bass standing waves.'

TSSL's design saw the installation of a main system formed from Void Acoustics' Tri Motion three-way bi-amped sculpted loudspeaker arrays. Four units were installed across the length of the room,



Nexus X subwoofers below the DJ booth

including as side-fills. Bringing the bass are four Nexus Q upper bass enclosures and four Nexus X low frequency enclosures clustered in a central 'mono-block'.

'This type of installation is the first in the world,' said Mr Tochibori. 'I think that these subwoofers are the most impressive feature of the club: eight boxes totalling 48 12-inch 1000W AES drivers are installed beneath the DJ booth creating a monster portion of bass.'

Covering the VIP area are 12 Airten V2 compact dual 10-inch

speakers, three Venu Bass enclosures and four Air 8 surface-mount loudspeakers. Meanwhile, 15 Cirrus 6 ceiling speakers have been installed in the low-ceiling area of the dancefloor, programmed as delays. Completing the speaker setup are Stasys 2 floor monitors deployed throughout the venue. In the DJ booth, the TSSL team installed Air Stream DJ monitors and Stasys 118 subwoofers.

To power the speakers, Void Acoustics Bias Q2, Q5 and V9 amplifiers have been set up with

the latest presets. Controlling the system at FOH is a Midas Pro1 console.

TSSL's team arranged the speakers based on a rough design drawn up by Mr Tochibori according to the layout of the room. They then worked with one of the club's interior designers and various construction contractors to adjust the sound system for optimum coverage, while at the same time ensuring that the setup didn't interfere with the venue's aesthetic. The Tri Motion speakers

were painted in chrome, while the Airten V2 and Air Stream and Nexus units were finished in Satin Black in keeping with the decoration.

'The biggest challenge during this project was that the dance floor dimensions were short and wide,' said Mr Tochibori. 'As the floor is narrow, the distance between the speaker and the club's patrons is small. We therefore judged that Void Acoustics' Incubus Air Array and Arcline 8, which we were initially considering, were not suitable here and chose more compact, point source units.'

'We were also not able to place any speakers on the floor of the VIP area, meaning we needed smaller subs that we could hang. Therefore, it was necessary to steer the club's main subs wide to provide additional bass in the VIP space. I made several adjustments to the initial plans during the project and in addition, the hanging weight limit of the building itself posed load-bearing restrictions on how much we were allowed to actually hang. So, there were times when we struggled to balance between the aesthetic needs of the client and building restrictions, while ensuring the best sound coverage possible. Overall, I think that the team did very well.'

www.eastaudio.com
www.tssl.jp
www.voidacoustics.com

NZRB bets on Virtual Studio Manager

NEW ZEALAND: The New Zealand Racing Board (NZRB) recently acquired the services of German manufacturer Lawo to revise and streamline its production model. This forms part of NZRB's Vision Capture Project, which it devised in 2017 to explore new options for its broadcast workflows and OB. As a result, NZRB now operates six OB vehicles, with three Mercedes Sprinter vans and a fixed site to cover metropolitan race events from a central control room, using Lawo's Virtual Studio Manager (VSM) for integrated control.

NZRB's various responsibilities include scheduling daily racing and selling racing and sports bets, as well as managing the broadcast of racing on two national TV channels and Trackside Radio. Having moved to an IP Layer 3 network for its OB and remote production, NZRB worked with Sony to produce four HD, scalable OB trucks to cover its nationwide



OB workflow. The NZRB team identified VSM as a way to achieve the necessary flexibility and scalability, allowing for the shared use of further vehicles when needed as extra workspaces and for additional camera count.

'One of the key selling points of VSM was the portfolio of support

and compatibility for third-party protocols, in addition to Lawo's own products with Ember+,' explained NZRB broadcast engineer, Michael Tompkins. 'This was key given the wide range of products used in the design of the HD OBs, without compromising on capability.'

Lawo's Australian distributor, Professional Audio & Television (PAT), also provided support on the project. 'Initially, we had several whiteboard sessions that gave us confidence we had a solid idea that could work,' said NZRB's vision capture project SME, Jamie Annan. 'PAT had the knowledge and expertise to assist in design, configure and troubleshoot a system using the equipment they sold, rather than

being there just to sell a product.'

Inside the trucks, VSM provides integrated control of switchers, routers and a replay server, as well as the connecting network. The typical daily OB setup for a truck covers up to 10 system cameras, with capacity for 12, and other SDI, commentary, presentation area and roaming interviews.

www.lawo.com



The back of one of the vans



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Funktion-One joins the Malasimbo Festival at new home

PHILIPPINES: Now in its ninth year, the 2019 edition of the Malasimbo Festival saw the two-day event relocate from its former home at Malasimbo Ampitheater to the White Beach private nature reserve. In addition to the location, the festival's offering of music, arts and culture was reinforced for the first time by a Funktion-One sound system, as organiser Miro Grgic created an amphitheatre in the new location using Resolution 4 three-way speakers and F218 dual 18-inch bass enclosures.

For Mr Grgic the Malasimbo Festival is a passion project turned labour of love. 'I organise and own the event, while booking all the acts, being technical director, systems and sound

engineer, lighting director and all the other things I have to do to tie the event over, since sponsorship is extremely scarce,' he said. 'I load the sound system at home, unload at the festival grounds, set it up and operate it for the entire event. After the event I bring it back home, unpack and clean. I'm very hands on and I love my speakers, so I take care of them personally.'

The festival features an eclectic line-up of music acts, from jazz, soul and funk, to blues, electronic and world music, as well as indie pop. 'This year we had Robert Glasper, Anomalie, Laneous and Ruby Ibarra headlined,' said Mr Grgic. 'The DJ Stage is mostly funk, disco, house, drum and bass – a bit of everything

depending on the day. This year, it was headlined by Danny Krivit.

'Funktion-One is great for live music. It's an efficient sound system, so I don't need much power to drive it and I get a much higher output compared to any other speaker I've used. Also, I don't use much signal processing, I keep a lot of things at zero – seldom do I touch EQs or compression. I spend more time getting the right positioning and coverage and I don't really go over 100dB. I like the average of 95–97dB; this is what I call ear-friendly. A lot of people fail to be considerate in this area, but I don't like to beat up my audience's ears.'

www.funktion-one.com

TDC delivers video setup for Sibos



AUSTRALIA: The annual Swift International Banking Operations Seminar (Sibos) most recently took place in Sydney. This was the 40th edition of Sibos and TDC (Technical Direction Company) was enlisted by marketing agency George P Johnson (GPJ) to deliver video solutions for the keynote addresses and six conference rooms.

'Sibos 2006 seemed to leave an impact on our industry for years,' said Finn Coffill, project manager for TDC, referring to the last time Sibos took place in Sydney. 'So when GPJ contacted us nearly two years ago to say Sibos was coming to Sydney again, we immediately started putting resources aside to support this impressive event.'

TDC deployed 160m² of ROE Carbon 3mm LED screens and 70m² of ROE Black Onyx 3mm LED panels. Footage for IMAG was captured on Sony HD broadcast cameras and 12 Panasonic HD PTZ cameras, while Barco processors and expansion units featuring the latest tri-combo in/out cards, and eight Dataton Watchout media servers were in use along the signal chain.

'Thanks to the ingenuity and careful system design by Matt Teale, our technical project manager, the client's briefed system design was reconsidered, and we increased our inventory of Barco Event Master processors,' said Mr Coffill. 'The benefits were extensive: reduced control area footprint, reduced operator count, simplified control and redundancy, and reduced hire cost. Furthermore, the challenging projection designs were replaced with LED, saving space and, surprisingly, money.'

The TDC team comprised 27 operators, who amassed 2,600 crew hours onsite. 'The stage opening was completely filled with an eye-catching design of descending arches,' noted Mr Coffill. 'Balancing the brightness and temperature of the LED screens with the stage lighting for camera – both for IMAG and broadcast – takes an experienced team. Thankfully, with our decades of TV studio experience, this was nothing new to us.'

www.tdc.com.au



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Making Waves at The Star Theatre

SINGAPORE: The Star Theatre, the flagship, 5,000-seat venue at The Star Performing Arts Centre, has adopted several solutions from Waves as part of its audio control setup. Star's head of audio, Reuben Ong, chose to add Waves SoundGrid Servers, MultiRack and the SD7 Pro Show bundle to the theatre's production workflow.

'Waves processing is a part of our current default console setup in The Star Theatre,' began Mr Ong. 'Our default theatre console system consists of three DiGiCo SD7 Quantums, one each for monitors, FOH and broadcast/recording. At each of the SD7s, there is an engine-based redundant system for Waves controls and processing. On each console, both engines are



Muhammad Khairul Bin Shariff with Muhammad Iszuan Bin Razali and Reuben Ong

connected to two Waves Extreme Servers and two host computers for the MultiRack application

(Apple Mac Minis through a gigabit network switch). Configuration is such that each SD7 engine is

connected to one Waves Extreme Server and one Mac Mini for controls. A 24-inch touchscreen monitor is used with both Mac Minis by means of a KVM setup. Currently, we are utilising the Waves Pro Show SD7 plug-in bundle for all of the SD7s.'

The venue first started using Waves solutions in 2013. 'We were using the SoundGrid Server One for a long time,' noted Mr Ong. 'However, with the changing requirements of our anchor tenant and the incoming shows and events into our venue, we have seen our Server One processing being stretched to its capacity. The Waves Extreme Servers are the next phase of upgrades that allowed us to cater to the requirements of all our end users.'

Mr Ong continued by describing Waves MultiRack as 'the most straightforward software for using Waves plugins for live events'. 'In addition, the auto delay compensation function of the software allows for a coherent transfer of digital audio across all of the channels. The remote function between MultiRack and the SD7s also helps in ensuring that shows are in sync from console to Waves control.'

For more on the sound setup at The Star Theatre, check out Richard Lawn's exclusive feature from the May/June 2018 edition of Pro AV Asia magazine.

www.thestar.sg
www.waves.com

Brio36 delivers 5.1 mix for live concert special



INDONESIA: *Cerita Tentang Cinta* (A Love Story) was a live concert special staged at the Balai Sarbini concert hall in Jakarta. It was organised, broadcast and streamed live by Trans7 under its *Musik Spesial Concert* banner, and featured performances from major Indonesian stars, such as Krisdayanti, Rizky Febian, Marion Jola and Devano.

A Calrec Brio36 digital audio mixing console was used to mix the concert in Dolby 5.1 surround sound, marking the first time a live *Musik Spesial Concert* had been broadcast and streamed in the format in Indonesia. Therefore, Trans7 worked closely with Dolby Singapore and was provided support by Calrec distributor JAA Systems and its local Indonesia dealer, Goshen Swara, to ensure everything was in working order and that the broadcaster's sound engineer, Pak Tommy, was able to mix for the show in 5.1.

The Brio36 was equipped with a Br.I/O stagebox and a Dante I/O card used for reverb and multi-track recording. The mixer received 10 channels of ambience mics and 18 inputs from various other feeds, and handled the programme out with a stereo downmix as well as the 5.1 mix.

'It was the first time Pak Tommy had operated a Calrec Brio36 mixer,' said Chang Wee Lee, project engineer at JAA Systems. 'However, the Brio36 is simple to use and he was able to master the console and start mixing in 5.1 surround sound less than half an hour after getting his hands on it.' 'This proved once again that Calrec's Brio36 is a versatile, compact, yet powerful digital audio mixer,' said JAA Systems MD David Chan. 'We are honoured to have been a part of Trans7's live concert show.'

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www.jaasys.com

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Mahajak brews up a solution for Singha

THAILAND: Boon Rawd Brewery, renowned for its flagship beer Singha, has moved to a new premium work space in the heart of Bangkok. The brewery called on the services of Mahajak to equip the new space with a range of AV solutions, having employed the systems integrator for a previous project.

‘Mahajak was responsible for the installation of audio, visual and control systems for 48 rooms of 12 different types,’ revealed the Mahajak project team. ‘Mahajak also installed LED displays in the canteen and directory signs in the lobby.’

The screens in the canteen, of which there are 20, are all Samsung Smart Signage SHF 37-inch stretch screens. Serving as directory displays in the lobby are two Samsung Smart Signage DM75E commercial LED screens.



Mahajak also deployed a large, 8.25m x 2.25m Uniview LED screen on the wall beside the stairs in the building’s indoor garden zone, along with four JBL 28-1 speakers powered by a Crown XLS 1502 amplifier.

‘The customer expected to get an up-to-date and smart system that is

easy to use, and good after sales service for their meeting rooms,’ said a Mahajak project engineer. ‘They required automation in the conference room that would control the audio, visual and air-conditioning systems, as well as the motorised curtains. Moreover, the client required an audio and video system

that suited seminars and events, whether the rooms were separated or combined to form a larger room. Furthermore, the system needed to be compatible with other audio and visual systems brought in from outside.’



The meeting rooms, which can be separated or combined, have been equipped with a vast range of technology, including Crestron control solutions, AMX ACR-5100 Acendo Core meeting space,

collaboration systems, KanexPro transmitters and receivers, Epson and Panasonic projectors, Razr projection screens, and Sharp LED screens, JBL speakers Crown amplification, BSS processing, Soundcraft mixing and Shure microphones.

The board room also benefits from Barco’s ClickShare CSE-200 wireless presentation system, as does the ballroom and town hall venue. JBL speakers, LG and Samsung screens, and Barco ClickShare devices can also be found in the executive lounge, dining room and living room.

‘This was one of our largest projects to date,’ said the Mahajak team. ‘It was completed successfully and handed over to the customer.’

www.mahajak.com

Next-proaudio pops up in Xi’an



CHINA: A Next-proaudio system of more than 120 speakers was supplied by distributor Real Music at the recent edition of the One Yeah Pop Up+ Festival in Xi’an. The festival combines electronic music and rap with traditional Chinese music and other events, such as streetball.

The sound setup comprised 15 flown LA212x cabinets per side and 18 ground stacked

LA418G enclosures per side stacked in front of the stage. A further nine LA212x units per side were used for out-fill, while 12 wide angled LA122w speakers delivered front-fill. Another three LA122w boxes and an LA5118 were mounted on both sides of the stage as side-fills. In addition, 16 X15 point source speakers were used as stage monitors. The entire setup was powered and

managed by N-RAK touring racks with Powersoft X8 amplifiers.

‘The electronic music sound effects were controlled fantastically and the sound pressure with the LA212x line array was really amazing, allowing all the audience to have a fantastic music experience,’ said Richie Wang, CEO at Real Music.

www.next-proaudio.com



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Yamaha cleans up AV at Sagawa

JAPAN: Japanese logistics company Sagawa Express Co has installed a series of Yamaha video and audio collaboration systems to improve the line of communication across its delivery and sales network. Sagawa has 18 branch offices and 426 sales offices nationwide and is heavily reliant on web conferencing to bridge those distances and keep management informed.

Users had difficulty hearing conversations from the speakerphone and a crackling sound often interrupted meetings. In the company's large conference room, the speakerphone microphones did not adequately pick up the voices of participants sitting at the furthest end of the table. Impressed with a demo in Tokyo, Sagawa opted for the Yamaha YVC-1000 speakerphone for its large conference rooms due to its ability to connect up to five microphones, which would accommodate audio pickup for roughly 30 meeting participants. The intuitive design provides simple connection to a PC via USB and/or to smartphones with Bluetooth and includes echo cancellation.

'Connecting the PC and the audio communication equipment to the large display installed in each room and checking the connection took roughly 10–15 minutes. With meetings throughout the day, that's a lot of time and effort spent setting up the equipment repeatedly,' said Sagawa assistant manager, Takanori Ohta.



On the video side, the camera often cut participants closest to the camera from the field of view, which required a lot of manual adjustments. The other problem was that the company only had a few systems, requiring IT staff to move the system from one conference room to another and reconfigure it before every meeting.

For the smaller conference rooms, CS-700 video collaboration systems were installed on video carts for improved audio intelligibility during meetings, equipped with large display screens. The CS-700's wide-angle camera was also able to capture every participant in the room, without adjustment to settings, while eliminating the clip-on cameras the company had been using previously.

www.sagawa-exp.co.jp
www.yamaha.com

Formosa Hakka FM 93.7 employs Dante

TAIWAN: Formosa Hakka FM 93.7 has upgraded its signal transmission system with the inclusion of a Dante link between the recording studio and control room. A Unika NBB-1616 16 x 16 break-in/break-out box has been installed at each end to bidirectionally stream multi-channel audio between the studio and control room by VTek Engineering.

When VTek director Tevia Chang tested the NBB-1616 systems installed at Formosa Hakka FM 93.7, he decided to replace



the station's original multi-track transmission system with two Cat-5e cables to connect two

NBB-1616 networked boxes.

'Because the NBB-1616 offers an automatic pairing function, the Dante Controller software was not needed in this instance,' said Mr Chang.

'The replacement of the old system was very fast. Using computers with the Dante Virtual Soundcard and DAW software, radio stations can be upgraded directly from live studios to multi-track recording studios quickly.'

www.unikapro.com
www.v-tek.com.tw

ASEAN Centre for Energy calls on Congress

SINGAPORE: Congress Rental, an equipment rental company that specialises in live conferences and events, was called up to facilitate clear communications during the

ASEAN Centre for Energy's recent Senior Officials Meeting at the Singapore Intercontinental Hotel. A total of 16 Bosch Dicens wireless conference microphones were

provided for delegates around the rectangular conference table, as well as a Dicens WAP and a pair of laptops for system control management and chairman control.

A Congress Rental engineer remained onsite for the conference to offer support where needed, and was asked throughout the meeting to add and remove microphones. In addition, the engineer was able to improve the overall intelligibility from the PA system during the event using the Bosch operating software installed on the laptop to switch off the microphones after each delegate finished speaking.



www.boschsecurity.com
www.congressrental.asia

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ASTRO SPATIAL AUDIO

White Eagle delivers sound and light for Illuminati

INDIA: Gaurav Bakaya and Akhilesh Rao of AGA Hospitality's latest venture is Illuminati, a bar and supper club that transforms from a restaurant during the day to a bar at night, and becomes a nightclub during the weekend. Arun Kalra of White Eagle Entertainment was brought in to design and implement the lighting and sound systems, working alongside interior design firm DesignWorx. The project was managed by Transform Projects.

Triangles play a big part in the venue's décor, inspired by the secret societies it is named after.



This includes the lighting rig, which features a custom, triangle-spangled grid designed to create the illusion of space. Meanwhile, a vertical moving light truss and a rotating truss are juxtaposed to

create multiplying effects when the venue operates as a nightclub lounge. This movement of light also helps to camouflage the lighting fixtures when in restaurant mode during the week.

The lighting rig is formed of SLA Sound Light fixtures and systems. This includes 12 SLA 715WZ wash zooms, 12 SLA100B mini beams, and 24 SLA Laser Beams that work together to create a laser curtain. The rig also features four SLA Infinite moving heads, a pair of SLA AH30 RGB 3W lasers and two haze machines, as well as 1,000 of the custom SLA LED triangles that form the grid. Each side of each triangle is approximately 76mm. Completing the lighting setup is an SLA Rotating Truss with SLA 512 DMX controller, a custom nine-foot truss with up and down movement, and 147 triangular LED panels covering the ceiling and VIP area.

'This installation was challenging and time consuming, yet successful,' said Mr Kalra. 'The triangular lights for the custom domes were specially made from acrylic and fitted with an LED that can be seen from both sides, and

there are 1,000 of them. Each had to be made and then placed correctly to ensure it could be seen, after which we had to glue them in.'

When it came to designing a sound system, the biggest challenge came from the venue's large reflective surfaces – decorative mirrors and glass that cover the walls. White Eagle overcame this by designing a system to ensure even dispersion across throughout the Illuminati, while avoiding these surfaces. The sound system installed draws heavily from the Amate Audio catalogue, incorporating four JK15N loudspeakers in the main area, along with a pair of JK18W2 sub bass elements, 10 JK26 speakers and two JK15W subs as surrounds. Four CS6 ceiling speakers provide playback in the bathrooms, while two HD4000 and four HD3200 amplifiers power the speaker setup. An Amate Audio DSP608 system handles system processing and offers control of the audio system.

www.soundlight.in

grandMA3 picked for Eurovision

AUSTRALIA: Australia has been represented in the *Eurovision Song Contest* since 2015. This year, for the first time, the country's entry was chosen via a televised contest – *Eurovision – Australia Decides* on Special Broadcasting Service (SBS). The show's lighting designer, Paul Collison, employed a grandMA3 full-size console, three grandMA3 lights, a grandMA2 light and five MA NPUs (Network Processing Unit) for control, as well as MA 3D for visualisation.

'We loved using the new grandMA3 hardware,' Mr Collison commented. 'Even though we're still on grandMA2 software, the grandMA3 hardware has breathed new life into the well-established grandMA2 platform. The more ergonomic layout of the surfaces made the long days more tolerable, and incredibly accurate touch screens increased workflow efficiency. Then there are the buttons. I've not yet met a person who doesn't love those buttons. Though it wasn't an overly complex show, the seamless way that multiple users can be homogeneously integrated means that any operator could assist with the focus of lighting positions or make subtle changes from the various surfaces we had located around the arena.'



The set design was made to look like the Eurovision Song Contest itself, only with 10% of the lighting employed. 'We had a great set design from Mark Dyson and encapsulated 100 moving lights in it,' said Mr Collison. 'Above the stage were four concentric circles of trussing that flew in and out on Kinesys motors.'

'Being our first local Eurovision type show, it was a special project for many involved. While we aren't new to music shows, it was the first time we had produced a show which resulted in a winner in such a short time frame and that also featured so many top Australian acts like Sheppard, Mark Vincent, Ella Hooper and eventual winner and Eurovision Song Contest entrant for Australia 2019, Kate Miller-Heidke.'

Stuart Anderson from White Light was the lighting director while Jarrad Donovan worked as lighting programmer. Adam Smith was responsible for media servers and Chameleon Touring Systems provided the lighting systems.

www.malighting.com

Pearl makes India Fashion Week debut

INDIA: Renowned lighting designer Viraf Pocha selected ETC ColorSource Pearl fixtures to form part of the lighting rig at this year's Lotus Make-Up India Fashion Week (LMIFW). The fixtures were supplied by Modern Stage Services.

'In a fashion show the light should enhance the fabric exhibited by the models on the ramp rather than dissolving the original nature of the attires,' explained Mr Pocha. 'ETC offers the right scope of lighting that compliments a fashion show.'

Davinder Wadhwa, managing director at Modern Stage Services, concurred that lighting plays a major role in any fashion show. 'The lighting inventory was massive for both the main stages,' he said. 'This year, for the first time at

LMIFW, ETC's ColorSource Pearl was included, a variable white light LED spot luminaire that utilises a mix of two different white LEDs that enable a user to set the colour temperature anywhere between 2,700K and 6,500K. Therefore, the ColorSource Pearls delivered the much needed organic and natural light on the ramp.'

Hi-Tech Audio Systems serves as ETC's Indian distributor. 'With time we are sure that ETC products will be the first preferred choice in any live show inventory or installations,' commented Hi-Tech managing director Rajan Gupta.

www.etcconnect.com

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DIAP on board with Clear-Com

SINGAPORE: Dredging International Asia Pacific (DIAP) has selected a Clear-Com FreeSpeak II wireless communication solution to keep its crane operators and riggers connected across a vast Singapore-based crane barge known as Delta Prince. The FreeSpeak II solution was supplied and installed by Clear-Com's dealer Electronics & Engineering.

Specialising in the fields of dredging, marine engineering and environmental remediation, DIAP focuses on construction and development of ports and harbours, artificial islands, estuarial dams, canals, dyke construction, beach replenishment and coastal protection. As such, the company was looking for a full-duplex wireless intercom



solution that would work reliably across a wide roaming area, given the considerable size of the canal barge, which measures over 70m in length and over 25m in breadth. The chosen solution had to tolerate the harsh outdoor environment on board the crane barge, where it would be subjected to diverse weather conditions.

Raj Baiju, technical superintendent at DIAP, said: 'FreeSpeak II was the ideal product for this installation, since the antennas and belt packs are IP-rated, we don't have to worry about them getting damaged or working outdoors.'

www.clearcom.com
www.enepl.com.sg

Zhengzhou Art Palace selects DAS

CHINA: The Zhengzhou Art Palace in China has installed Aero-20A systems from DAS Audio, having recently undergone a major renovation to convert the venue into a multipurpose theatre. The palace features two theatres with 1,338 and 186 seats respectively.

DAS Audio China was contracted to set up an audio system for the Zhengzhou Art Palace that was powerful yet adaptable enough to meet the venue's unique sound needs, which range from ballets and dance performances to opera and symphonies by national and international groups.

Two clusters of six Aero-20A line arrays were installed as the main PA using the integrated DASaim optimisation tool, combined with two LX-118A subwoofers which were flown in a left/right configuration on either side of the stage for uniform coverage, with the entire system monitored and controlled by the DASnet audio management system. Four Artec-526 loudspeakers were installed as front-fill for spectators and four Vantec-12A were brought in as stage monitors.

www.dasaudio.com



The Rubens tour with Mistral-S spots

AUSTRALIA: The Rubens recently toured their native Australia, promoting their latest studio album, *Lo La Ru*. Lighting designer Tim Beeston from Flash Bang Productions lit the stage with Ayrton's new Mistral-S spot luminaires, supplied by South West Solutions.

'I designed a ladder system incorporating mirror balls and small spot beams,' said Mr Beeston. 'The Mistral-S with its small, light profile was the ideal fixture for my ladder system. We also compared it against a very well-known profile

fixture and, with its flat field, the Mistral-S was definitely the better instrument.'

Eight Mistral-S fixtures were hung on four ladders, along with eight mirror balls below each one. These were used for beam looks, projecting onto the mirror balls and as back spots. The fixtures remained hidden for the first half of each gig, concealed behind a large silk backdrop, only to be revealed by a spectacular kabuki drop during the 10th song of the set.

When the tour stopped at The Forum in Melbourne, Mr Beeston adjusted the rig, incorporating South West's newly purchased Ayrton Bora-S wash luminaires, positioning three on the downstage truss for backdrop framing during the second set and as backdrop washes during the first set.

'We used the Bora-S units to frame out onto the drops and then dropped in a gobo to do some textured breakups,' explained Mr Beeston. 'They're an awesome light and the framing is spot on.'



Image courtesy of Mia McKenzie

www.ayrton.eu
www.showtech.com.au
www.s-w-s.com.au

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www.clearcom.com

Zarza opens with RCF



INDIA: Zarza, a nightclub and restaurant in Dreamax Plaza, Jaipur, has opened with sound reinforcement from an RCF sound system supplied and installed by distributor Hi-Tech Audio Systems.

'We tried to understand the client's requirement, designed the audio system's placement and found that RCF's HDL 20-A was apt for Zarza,' explained Kallol Nath, systems application engineer at Hi-Tech. 'The venue is installed

with three HDL 20-As per side, two V 218-S subwoofers, a QPS 9600 amplifier and a BSS BLU 100 DSP processor. The much-needed punch of the sound is achieved without any pinching or unwanted loudness at the venue.'

Zarza was established by husband and wife team Komal and Shailendra Lalwani. Mr Lalwani was involved in every aspect of the project. 'Zarza is a whole new experience for the guests and to install the best sound system, we commissioned the RCF speakers,' he said. 'They proved their worth at the launch party where Raghu Dixit headlined the evening with an enthralling live performance.'

www.hitechaudiosystems.com
www.rcf.it

Shure aids pitches for WeWork creators

KOREA: Shure served as the official audio partner at the 2019 WeWork Creator Awards, supplying an Axiom Digital wireless solution and conferencing systems with simultaneous interpretation and language distribution for the event at Seoul's Dongdaemun Design Plaza.

During the awards, finalists make their final pitches to the judges in front of a live audience in the 1,500-seat main hall. Capturing these pitches, as well as the hosts and judges, were 24 channels of Axiom Digital and UHF-R systems using a mix handheld and bodypack transmitters. Axiom Digital also captured the musical performances by Korean artists Eric Nam, Ailee, Mommy Son, and Hyolyn, while UHF-R was also



used for speech reinforcement in WeWork's masterclass before the awards ceremony.

Meanwhile, Shure deployed DCS6000 simultaneous interpretation and DIR language distribution solutions with 600 digital wireless receivers made available for non-Korean

speaking guests requiring English translations. The interpretation and infrared language distribution system was supported by conferencing equipment rental company Channel Media.

www.shure.com
www.we.co

NBT increases Avid workflow

THAILAND: National Broadcasting Services of Thailand (NBT) has upgraded to an Avid workflow that covers graphics, storage, and video and audio editing tools, as well as the MediaCentral platform.

NBT has used MediaCentral Newsroom Management to support production since 2010. The broadcaster has added the Maestro Virtual Set, which can be coupled with Xync 2.0 infrared camera tracking, providing the ability to create photorealistic environments. Meanwhile, the MediaCentral Cloud UX content searching interface has been integrated with FastServe and Avid Nexis to increase workflow efficiency. Media Composer is also used to allow the production teams

to edit a variety of file types, and Pro Tools has been added to the audio team's arsenal.

'It's vital for us to remain responsive to technological change to help our coverage achieve its full creative potential and streamline processes,' said Chatree Seangsuk, chief of Studio 2 at NBT. 'Avid's news production solutions have acted as the nerve centre of our production workflow for years. After a detailed review, we're confident that upgrading with Avid will help to ensure we'll continue elevating our programming to inform, excite and keep our viewers engaged.'

www.avid.com

CCTV takes Ross to the Spring Festival Gala

CHINA: China Central Television (CCTV) employed a vast array of Ross Video virtual studio solutions for its coverage of this year's Spring Festival Gala. This included visual effects on stage, such as augmented reality and animated graphics elements from the manufacturer's rendering solution based on Epic Games' Unreal 4 Gaming Engine, and the Furio camera motion system, which enabled camera moves that would not have been possible with human operators.

'In addition to the Furio camera motion system, which is now a regular fixture of CCTV programming, this year's event used a mixed-reality solution for the first time, featuring nine of our Unreal-based systems across multiple locations,' confirmed Ross Video director of sales for APAC, Andrew Tan. 'Ross Video is extremely proud and honoured that CCTV chose to partner with us and used our solutions and technologies to enhance the on-air look for this important show.'

www.rossvideo.com

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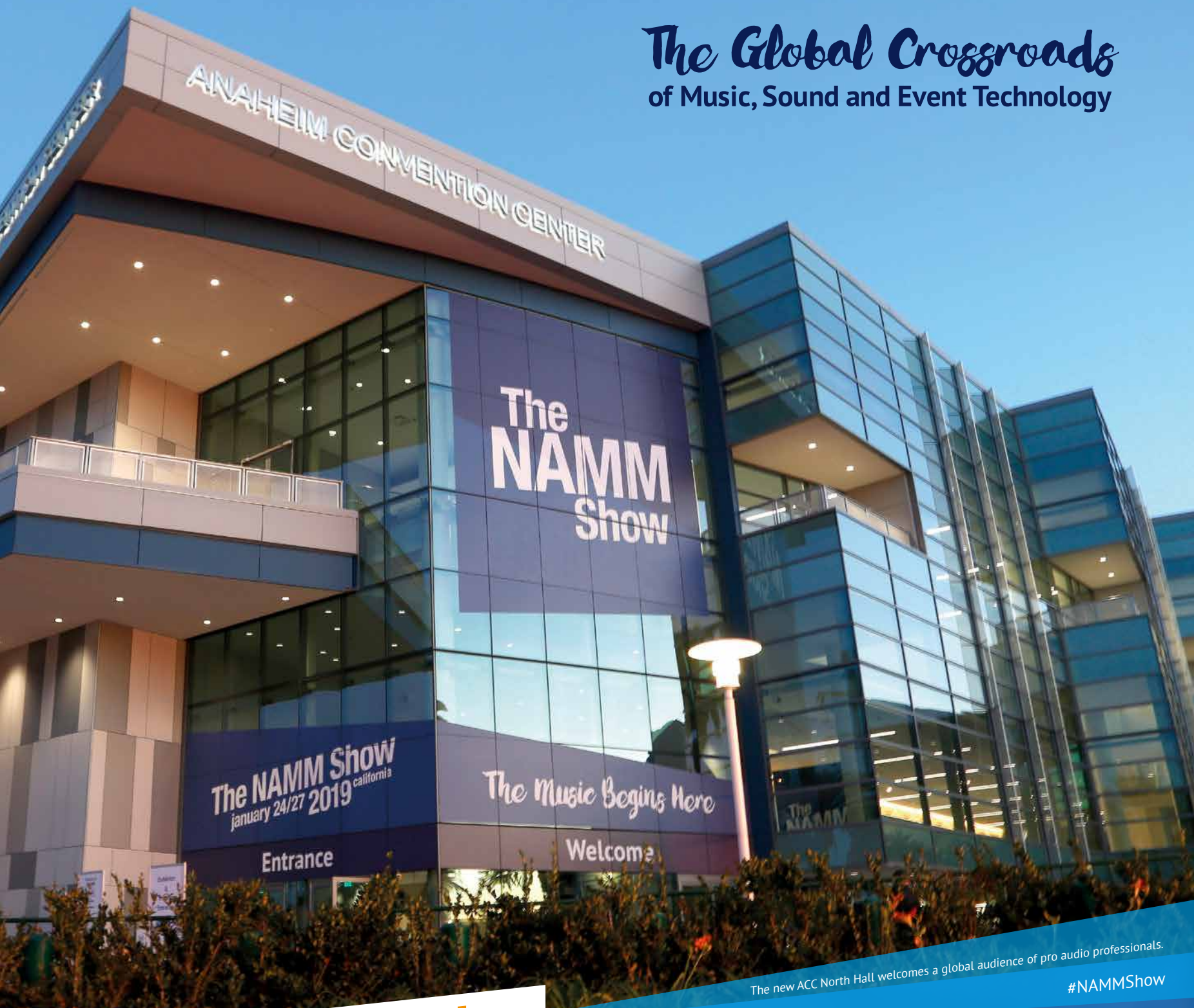
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Prosound in the round

Prosound Vietnam touched down for its third edition, once again at the familiar showground that is the Seventh Division of the Vietnamese military's sports field in Ho Chi Minh City.

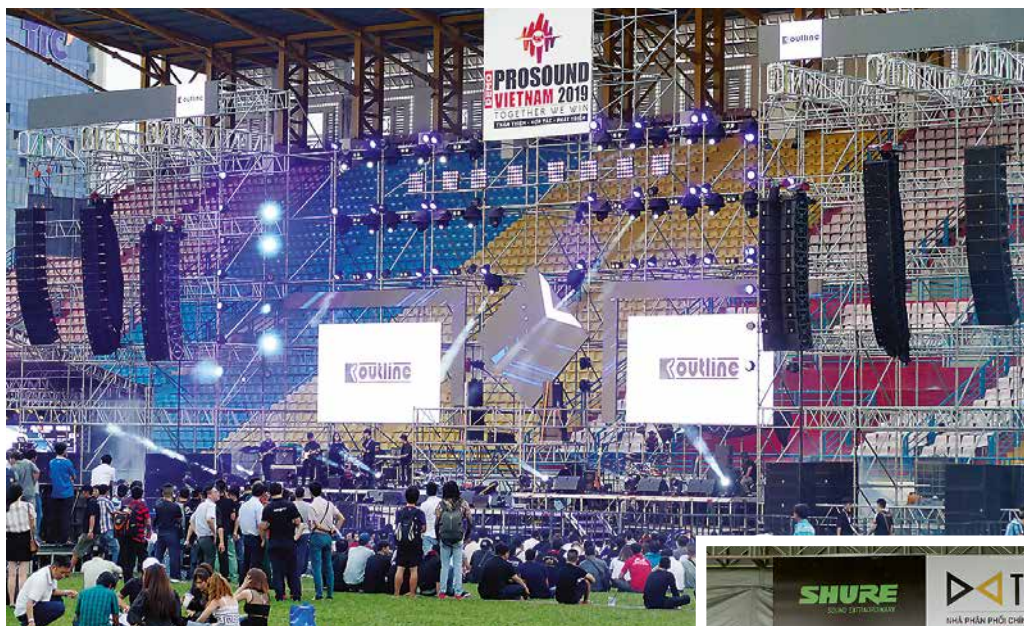
Richard Lawn paid a visit

HAVING HOSTED 12 LOUDSPEAKER

brands on one day in 2017, the organiser wisely decided to extend this to a two-day event in 2018. In addition to music playback, singers showcased the various loudspeaker brands, while 10,000 visitors, including Vietnamese production and rental companies, received a better understanding of the systems and were allowed to get up close and personal to the melee of FOH consoles that were used for the various demonstrations.

'This concept hasn't been devised to compare PA systems,' insisted organiser, Nguyen Than (Kelvin). 'We decided three years ago that the Vietnamese market lacked a forum where distributors, rental and live sound companies can meet and discuss pertinent issues. In addition, we're attempting to educate the market in Vietnam.'

This year at Prosound Vietnam, the stadium was adorned by four stages along the perimeters of the field, each hosting three line array systems. In the centre of the pitch, an extensive FOH production zone hosts lighting and audio control systems, including Allen & Heath, Avid, DiGiCo and Yamaha consoles such as the latest Rivage PM7 surface. Occupying the perimeter of the pitch, 34 exhibitors promoted



Outline's GTO was the first of the 12 demonstrations

their audio and lighting systems to visitors before the show commenced at 6pm.

Beyond the field, several exhibitors provided training seminars. Tiếng Ngọc Audio displayed a mixture of dBTechnologies speaker systems and Shure microphones on its booth. Backstage, it hosted in-depth translated seminars on Wireless Workbench and

better microphone performances for Shure. 'Many Vietnamese wireless users are unaware that the wireless spectrum between 506–700MHz has been sold to digital broadcasters, so we feel it is our duty to let wireless users know before they invest,' commented sales representative, Tan Nguyen.

On the following day, Tiếng Ngọc Audio hosted another seminar on AuroraNet software and Via line

array technical discussions for dBTechnologies. Supported by four of the team from Bologna who had flown in especially to support their distributor, the two-day event was a resounding success. 'It's an intense festival of music and brands,' confirmed dBTechnologies marketing manager, Stefano Bini, who had flown in from another demo in Bangalore, India. 'We travel all over the region to better showcase our speaker systems and are happy to support our distributors in this manner. The market here is growing and there is a hunger among users wanting to learn more.'



The boys from Bologna – dBTechnologies flew in to assist its distributor Tiếng Ngọc Audio

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→ disguise.one/solo



Nguyen Khanh Dung, Patrick Hau, Pham Ngoc Truong and Ronnie Lei promoting EV speaker systems and Dynacord TGX amplifiers

As the temperatures decreased after sunset on each night, the SPLs rose as six 40-minute demonstrations took place on two of the four stages. This year, the stages were set for Adamson (E12), CPL, dBTechnologies (Vio L212), Electro-Voice (X-2), JBL, Idea, L-Acoustics (K2), Outline Audio (GTO), Pro Max, Reyn, TW Audio (Vera 36) and Verity (Monster 212). Following a five-minute introduction, each speaker brand then hosted a live band for 20 minutes before rounding the set off with a DJ performance.

'This is something more than a loudspeaker demonstration focus,' furthered Mr Than. 'We want to build a pro sound community where anyone can come along and share the costs of the event. It's a not-for-profit organisation and this year we are helping orphans.'



Van Nguyen Pham from Phuc Thang Export Co made an impression with Verity Audio's IWAC 210, Muse, Voice and Monster loudspeaker systems

Patrick Hau travelled in from Singapore three days prior to the event to assist his Vietnamese colleagues in setting up. 'It's quite intense as there are four stages each with three line array hangs, dedicated monitor systems, an FOH engineer and a mixer. But Prosound is a unique event and it works well here in Vietnam. Our partner, Truong Thinh, also had the opportunity to promote the new Dynacord TGX four-channel amplifiers alongside the EV Evolve 50, Evid-S, ZLX, ELX200, ETX and EKX speakers.' Elsewhere, Amate Audio's XCellence 212 and 218

system was on display, as was the SE Audiotechnik M-F3A system on the Saigon Technik booth.

Located near to Saigon International Airport, the ageing stadium may not be the best place for showcasing line array speaker systems. However, for the 15,000 attendees converging at this open-air venue over two days, they leave with a better understanding perhaps of how live sound systems are deployed and used. Now enticing overseas visitors, this forum will most certainly mature and take pro audio to a better level in Vietnam.

www.prosoundcenter.vn



"The Void Acoustics Incubus is incredibly powerful yet smooth; thunderous but not overly aggressive. Both the audience and DJs enjoy the sound system here at OMNI."

Alan Hsia
Co-founder of OMNI (Taipei, Taiwan)

VOID
voidacoustics.com

Exclusive: Fuzion impresses with Genelec immersive seminars

THAILAND: Following a two-day Asia Pacific/Middle East distribution meeting, Genelec hosted an immersive seminar in Bangkok for its Thai customers and dealers. Working closely with local distributor Fuzion, the impressive event was held at Studio 28 on the capital's outskirts.

'It's taken weeks of preparations,' confirmed Fuzion's Joshua Oates, 'but it's all come together this evening as we have welcomed numerous DJs, producers, film producers and engineers to the event. So, it was worth the collective efforts of the team.'



Genelec's Thomas Lund and Fuzion's Sutat Kohtiat with some of their guests

Five representatives from the Finnish speaker manufacturer supported Fuzion for the event including Thomas Lund

(senior technologist), Howard Jones (marketing director) and Aki Makivirta (R&D director). Following a welcome speech,

Mr Lund provided a seminar overview on GLM calibrated frequency response and loudness compliance before Aki Makivirta explained more about the 8331, 8341 and 8351 monitoring speakers – collectively referred to as The Ones together with the 7382 subwoofer. Meanwhile, the S360 SAM two-way monitor was unveiled for the first time in South East Asia.

Fuzion's Sutat Kohtiat assisted the nominated Genelec team with technical translations throughout the entire evening. Following a short break, further seminars on Dolby Atmos room specification

and DART (Dolby Atmos Room Design Tool), together with Auro music production and immersive recording techniques, followed. The finale, and the pièce de résistance, came in the form of a 17-minute Atmos listening experience.

Aurally stimulated and educated, the more than 150 guests were then provided entertainment courtesy of a DJ in the outdoor area and nourished with food and drink.

'I've been using Genelec main and nearfield monitors in studio setups for many years, as well as the 8010s and 8020s for my own portable use,' confirmed Bangkok-based DJ Spider Monkey. 'Occasions such as today confirm why I love the brand.'

www.fuzion.co.th
www.genelec.com

ASIIS runs expos across Indonesia



INDONESIA: Indonesian distributor PT Acoustic Sound Image Integrated Solution (ASIIS Indonesia) recently toured the country, bringing the ASIIS NEX GEN Sound and Lighting Expo to Jakarta, Semarang and Surabaya. The expo events provided ASIIS with the opportunity to

showcase some of the products and brands that it represents, including Audiofocus, ChamSys, Minuit Une and VMB, as well as the Waves eMotion LV1 live mixing software.

Each expo included a trio of workshops. The first was a Waves session, introduced by Waves

specialist Ebenhaeser Christo. Sound engineer Tommy Utomo then led much of the workshop, conveying how eMotion LV1 can help in preparing installations, mixing layouts and mixing plans, as well as proving reliable when optimising a live mix. These Waves workshops attracted approximately 300 participants, including sound engineers from houses of worship, clubs, media organisations and hotels and restaurants, in addition to producers, broadcasters and rental company owners. To provide a demonstration of the Waves eMotion LV1, ASIIS deployed and showcased a PA setup comprising Audiofocus Ares 8 speakers and Sub S21 subwoofers.

The second workshop held in each city was focused on ChamSys

lighting. Tommy Hartono, lighting designer and ChamSys specialist, introduced the manufacturer's range of products, as well as the hardware and software contained within each device. Lighting designers from houses of worship, broadcasters, rental companies, clubs and media companies attended these sessions, and were reportedly impressed by the capabilities of the ChamSys consoles.

The final sessions in Jakarta, Semarang and Surabaya explored IVL Lighting, a new type of lighting created and patented by Minuit Une. The manufacturer's founder, Eric Phelep, and lighting designer and tech support, William Suddon, travelled to Indonesia to host these sessions. They explained how IVL Lighting can allow designers

to create spectacular effects and immersive lighting experiences with few fixtures. The fixtures were demonstrated on VMB lifts and truss.

'I am very impressed with Minuit Une, because with just one fixture we can create many shows,' said Erik from TVOne, who was in attendance at one of the sessions. 'They're highly recommended for broadcasts; not painful for the eye, very smooth, so it will look good on camera.'

With each expo considered such a success, ASIIS has announced that it will continue to run demonstrations and workshops at its stores in South Jakarta, Semarang and Surabaya on a weekly basis.

www.asiis-indonesia.com

Adam Hall Academy teams with DEApplus for PROseminars

WORLD: Coupled with the opening of its Experience Centre last year, Adam Hall initiated the Adam Hall Academy offering an extensive and constantly growing training programme in collaboration with the DEApplus training institute. The partnership with DEApplus has since led the establishment of the Adam Hall Academy's non-proprietary PROseminars.

PROseminars tackle the fields of light, sound, rigging, video and media technology in as practical a way as possible. They cover topics at all levels of the events industry, including expert sound level

measurement, safety issues and responsibilities at event venues, strategic customer management, and GDPR issues.

'In building the Experience Centre, we were consciously investing in the future of the event technology industry, and that certainly includes training and further education opportunities,' said Alexander Pietschmann, CEO of the Adam Hall Group. 'DEApplus, with its extensive experience in this sector, deserves a lot of praise.'

www.adamhall.com/academy

TASCAM delivers ACE training

CHINA: Staff and engineers from Advanced Communication Equipment's (ACE) sites in Hong Kong, Shanghai, Beijing and Guangzhou were recently provided with TASCAM product training.

Around 40 ACE staff attended the seminar at the AV company's Guangzhou office.

Suguru Osanai from TASCAM's product planning team led the training, which covered the manufacturer's new MX-8A matrix mixer half-rack sized Dante Compact Processor series, among other products. These systems were demonstrated, along with the software that runs on PC, Mac, Android and iOS devices. Additionally, several real-world case studies were highlighted that made use of TASCAM systems such as



the DA-6400, ML-16D/32D, SS-CDR250N, CG-2000, MZ-372/223 and Model 24.

The event served not only to enlighten ACE staff about TASCAM's products, but also to

provide the manufacturer with some insight into ACE's work and the Chinese market as a whole.

www.acehk.com
www.tascam.com

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questengineering.com.au

Yamaha Musik Indonesia takes the reins of Nexo

INDONESIA: PT Yamaha Musik Indonesia has taken over the distribution responsibilities for Nexo in Indonesia from PT Acoustic Sound Image Integrated Solution (ASIIS Indonesia). A Yamaha subsidiary, Yamaha Musik brings distribution for the Nexo brand somewhat in-house. The Yamaha Musik team, led by Chihaya 'Chick' Hirai, will work closely with Nexo's business development manager for South East Asia, Bali-based Joe White, and will now provide sales and support for the Nexo and Yamaha brands at its Jakarta offices.

'Every country and culture has its own intricacies on how they approach and do business; understanding how the Nexo brand



The Yamaha Taiwan team

can best be presented here in Indonesia is a key part of my role,' said Mr White. 'Together with my colleagues at Yamaha Indonesia, I'll also be working on continuing Nexo's strong tradition of education and training in this region.'

Mr Hirai explained that plans are already underway to launch the Geo M12 mid-sized line array in Indonesia. 'We have already planned launch events for this system in Jakarta and Surabaya,' he said. 'Indonesia benefits from a number of exhibitions and trade shows, so we are aiming for maximum

visibility for the brand. With a vibrant domestic music market and also a big wedding party culture, our first target market will be the audio production rental suppliers. International tourism creates many market opportunities in the form of luxury beach clubs, resort hotels and nightclubs, and, of course, we will also be looking to build on Nexo's strong reputation in the house of worship sector here.'

Meanwhile, in Taiwan, a similar deal has taken place, with Yamaha Music & Electronics Taiwan Co

taking over representation of the French brand. Yamaha Taiwan was established in 2013 and its dedicated PA division is directed by Jack Chien. It will also be working to highlight the Geo M12.

'This is an exciting time to be taking our place in the Nexo global distribution network,' commented Mr Chien. 'The newly-released GEO M12 line array system is already ordered, and our first public event will be its grand launch in July. We will be looking at the hospitality industry and houses of worship as particularly strong markets for Nexo products, as well as the corporate AV sector.'

'Taiwanese economic conditions are strong and stable, so we are excited about partnering our colleagues at Yamaha Taiwan to expand our opportunities,' said Nexo BDM Michel Brouard. 'We will be building on nearly 10 years of excellent brand representation from Henry Deng at Born Free, who continues to be a valued customer.'

www.nexo.fr
id.yamaha.com



Joe White



Chihaya 'Chick' Hirai (left) with the Yamaha Indonesia team

Out Board names new supplier for China and Hong Kong



Ching Lui and Omega Lam of L-Supply

CHINA: Out Board has named L-Supply as the new distributor for its TiMax solutions in China and Hong Kong. L-Supply has subsequently acquired a 64-channel FPGA TiMax SoundHub spatial audio matrix of its own for hosting demonstrations and support purposes.

'We are very pleased to be working with TiMax,' said Ching Lui, director of L-Supply. As the most advanced and intuitive spatialisation and audio showcontrol automation system it cannot really be compared to anything else. At L-Supply we understand TiMax SoundHub and TiMax Tracker, and how it will bring the best sound arrangements for our customers across Hong Kong

and China. This is a very exciting time for us and our customers.'

L-Supply is led by Mr Lui and his fellow director Omega Lam. Both are pro audio industry veterans with a vast network of contacts.

'We're very fortunate to have an energetic new company such as L-Supply join the growing global TiMax distribution network, and look forward to working with them to increase our already significant market penetration in the Hong Kong and PRC territories,' commented Dave Haydon, director at Out Board.

www.lsupplypro.com
www.outboard.co.uk

Ayrton appoints PRG KK in Japan

JAPAN: Ayrton has unveiled PRG KK as its exclusive distributor in Japan. The deal will see PRG KK (a subsidiary of Production Resource Group) promote and support Ayrton's entire product portfolio with a dedicated technical sales team.

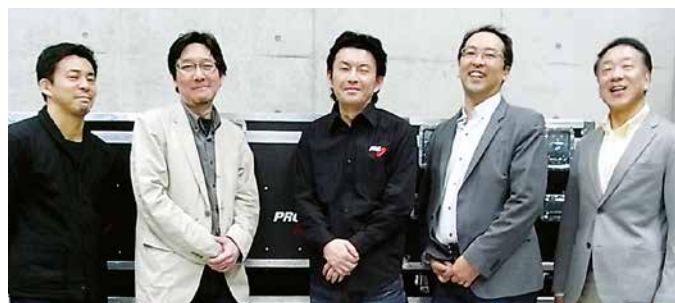
'We chose to become an Ayrton distributor because their renewed focus on an innovative, lightweight and quality product line is an excellent fit for the Japanese marketplace,' said PRG KK's Yuji Tanaka. 'Ayrton already has a well-established reputation for its effects lighting fixtures. We aim to develop that perception further in the Japanese market so the Ayrton brand becomes synonymous with

high-quality, high-performance moving lights. New fixtures such as Ghibli, Khamsin, Bora, Mistral, and now Diablo and Levante, will be readily available and fully supported for our customers.'

Ayrton's Jerad Garza from the

manufacturer's international sales team, added: 'Their energy and approach to the market combined with their customer focus.'

www.ayrton.eu
www.prg.com/ja



The PRG KK team

Alphatec takes on Attero Tech in India

INDIA: Alphatec Audio Video has added to its distribution portfolio by taking on networked AV solutions manufacturer Attero Tech. Founded in 2015, Alphatec has offices across the country, including Delhi, Mumbai, Bengaluru and its headquarters in Kolkata, ensuring representation for its brands throughout India.

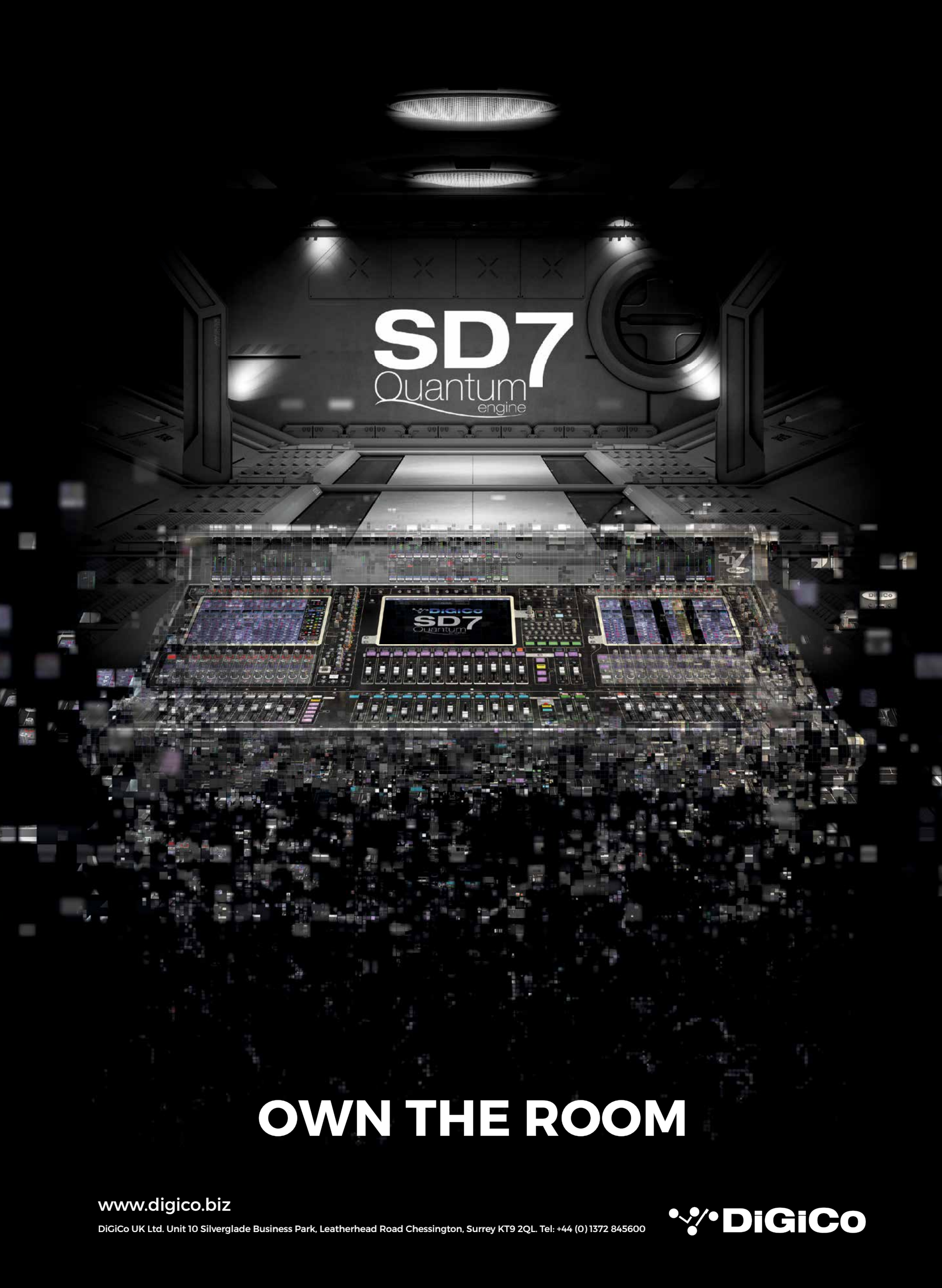
'With a team of 25 people working countrywide in sales, pre-sales, marketing and application

engineering, Alphatec is well positioned to provide significant support and added value for dealers, systems integrators and consultants in India,' commented Attero Tech's director of marketing and sales, Mike Sims.

Although still a relatively young company, Alphatec is no stranger to the distribution of major brands, as it has represented Music Tribe since its inception in 2015.

'Attero Tech's connectivity and control products are an excellent complement for many of Alphatec's other Dante-enabled product lines,' said Devasis Barkataki, Alphatec's managing director. 'Our ability to offer Attero Tech as part of an entire system solution will be a unique advantage to our customer base in India.'

www.alphatec.co.in
www.atterotech.com



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Point Source Audio appoints new Asian partners



L-R: Alex Schloesser, Jesse Park (Capstone), James Lamb and Yvonne Ho (PSA)

ASIA: Point Source Audio has appointed EAD in China, and Capstone Pro in South Korea, to serve as distributors for its Series8 and Embrace microphones, and CM-i series in-ear headsets. These distribution deals form part of the manufacturer's ongoing plans to grow sales outside the US, and it has also appointed Singapore-based AS Audio APAC as its Asia Pacific representative.

'We're excited to be working with both Capstone Pro and EAD,' said James Lamb, president of Point Source Audio. 'The creative community in these regions is massive and our products fit their

needs. Our goal is to continuously improve our customers' experience around the world in every aspect and we are confident that our new partners will help achieve that.'

Led by Alex Schloesser, AS Audio APAC will develop Point Source Audio's distribution network in the territory, and handle technical and sales support.

'Developing and growing the PSA business is a rewarding and enjoyable task,' said Mr Schloesser. 'Wherever we take the products, they shine and stand their ground with the competition. I very much look forward to taking PSA into APAC.'

www.capstonepro.co.kr

www.ead.cn

www.point-sourceaudio.com

Phase 3's Australian distributor adds APAC to remit

APAC: Connector-Tech ALS has supplied Phase 3 solutions into Australia for 10 years. Now, the British manufacturer has expanded the distribution deal to include the APAC region. Connector-Tech ALS will distribute the British manufacturer's Powersafe single-pole 500A and 800A connectors, IP67-rated Powersafe Sequential Mating Box, and Showsafe 3- to 19-pin connectors designed for use in the entertainment industry, as well as its catalogue of network connection devices, across the region.

'We are ready to meet the needs of the broader Asia Pacific market and have expanded our inventory accordingly,' said Connector-Tech ALS director, Les Cook. 'By working in direct partnership with Phase 3 we are able to provide greater value and improved technical support to our customers.'

Phase 3's managing director, Andy Glachan, stated that Connector-Tech ALS has proven itself year-on-year in Australia. 'Their product knowledge is second-to-none. That experience, in parallel with their commitment to the best customer service, made Connector-Tech ALS the obvious choice for our sole distributor for Phase 3 connectors in the Southern Hemisphere.'

www.ctals.com.au

www.p3connectors.com

Active Audio announces partner

TAIWAN: Fantasy Sound has been appointed exclusive distributor for Active Audio in Taiwan. Specialising in the conference market, the distributor will now have access to a full range of sound systems for its many conference room projects, from microphones to speakers.

The partnership has been on the cards for a while, after Fantasy Sound first spotted Active Audio and Televic products being used collaboratively in the XVII room of the UN in Geneva, which has since been nominated for multiple international awards.

The Taiwanese distributor stated the partnership was also a business decision driven by a growth in conference rooms, boardrooms and educational rooms in Taiwan.

Régis Cazin, president of Active Audio, expressed his delight at the new partnership. 'The experience and seriousness of Fantasy Sound is a guarantee of success. They are true distributors and represent brands effectively, without competing with their AV integrator customers.'

www.activeaudio.fr

www.fantasysound.com.tw

Audiofocus signs with Eatrend



Alexandre Kostenko with Walson Wu

CHINA: Shanghai-based distributor Eatrend AV Technology has further enhanced its portfolio (which already includes HH Electronics and Audix Microphones) by signing contracts during a dedicated ceremony at PL+S Guangzhou with Belgian loudspeaker manufacturer Audiofocus. The distribution deal covers China, Hong Kong and Macau.

'We've been in discussions with Eatrend over the past nine months,' explained Audiofocus sales and marketing director Alexandre Kostenko. 'While we

have been present here in China with previous partners, what we were really impressed with was the relationships and network that they have in both the installed and touring markets. They are very connected and this is their real strength.'

'I came across Audiofocus last year and was very impressed,' commented Eatrend general manager Walson Wu. 'I think they have excellent products and great potential. We will be targeting premium projects here in China with Audiofocus.'

'Our flagship system, the Ares 12, is already on its way to China for demo purposes,' added Mr Kostenko. 'We're looking forward to welcoming Walson and the team to our factory after the Frankfurt PL+S show in April.'

www.audiofocus.eu

www.eatrend.cn

Ross declares Danmon its master in Vietnam

VIETNAM: Ross Video has appointed Danmon Asia as its master distributor for Vietnam. Danmon Asia will sell and offer support for the entire range of Ross Video products.

'Danmon Asia is the ideal choice as our master distributor in Vietnam given its professional way of doing marketing, approaching customers and delivering post-sale technical support,' commented Andrew Tan, director of APAC sales at Ross.

Danmon Asia managing director Bjarne Pedersen added, 'Ross Video is a globally recognised brand with products and solutions that fit very well with our portfolio.'



David Ross with Bjarne Pedersen

They combine high quality and competitive pricing and have great potential to increase the daily work efficiency of broadcasters and telecom providers.'

www.danmonasia.com

www.rossvideo.com

tm stagetec systems becomes DirectOut dealer

AUSTRALIA: tm stagetec systems has become an official Australian dealer for DirectOut's range of pro audio connectivity, networking and bridging solutions.

'DirectOut is a perfect fit for us,' said Treva Head, managing director at tm stagetec systems. 'Both the philosophy of the products and the diverse range they cover will help tm stagetec systems better serve our customers in both broadcast and pro-audio markets. With the suite of audio over IP solutions and the intuitive Globcom software, DirectOut provides tools to solve many customers' problems. We are



Treva Head

excited to represent DirectOut and further build their reputation here.'

Lorenzo Sassi, business developer at DirectOut, described tm

stagetec systems as the perfect distribution partner for the manufacturer in Australia. 'They have a strong relation to and therefore understanding of the industry of our roots, broadcast. At the same time, they are a well-established distributor in the live and installation market. With their outstanding experience and our range of products we will be able to offer highly professional solutions to the Australian market.'

www.directout.eu

www.tm-systems.com.au

Full Fat Audio flies with Phoenix



L-R: Dave Millard with new distributors Mac Lo and Chris Zhang from Phoenix Audio

CHINA: UK amplifier manufacturer Full Fat Audio (FFA) took the opportunity at the 2019 PL+S Guangzhou show to announce its new exclusive Chinese distributor in the form of Phoenix Audio. Dave Millard, founder and director of FFA, attended the show to cement the deal.

'We're delighted that Chris [Zhang] and Mac [Lo] have formed this new partnership with us, and coming over to China for the first time is very exciting for me,' said

Mr Millard. 'The whole team have been so welcoming and seeing first hand the quality of the work Phoenix are doing, along with the training of their staff and their premises, I think there's going to be some really exciting possibilities in the future.'

Phoenix is the established distributor of VDC cables and Funktion-One. It was the nature of that latter relationship with the British loudspeaker manufacturer that sealed the deal for both sides. 'I came across Full Fat Audio

several years ago and we've had regular experience of using them through our work as a distributor with Funktion-One,' explained Mr Zhang, co-owner of Phoenix. 'We felt now was the right time to take on another brand and it fits really well. We've got a lot of projects coming up and FFA is a very stable product of great quality, and our technical team are really happy with it.'

'The deal just makes perfect sense,' concluded Mr Millard who will also attend the Shanghai iteration of PLS in October to support Phoenix.

www.fullfataudio.com

Williams AV names Hills its distributor of the year

AUSTRALIA: Williams AV has named Hills as its 2018 distributor of the year. Hills is the exclusive distribution partner for Williams AV in Australia.

'Last year was a strong one for the Williams AV-Hills partnership,' said Williams AV international sales director Per Persson. 'New products were launched, multiple training events hosted and continual sales growth experienced. We are proud to recognise the entire Hills team for their support

and exceptional sales efforts. We look forward to continued success in growing the Williams AV brand in Australia, and furthering this collaboration in 2019.'

Michael Carman is the product manager for Williams AV at Hills. He commented: 'We are proud to represent Williams AV in Australia and thank the Williams AV team for their support. Williams AV is a highly valued partner. We share a common vision to drive innovation and



The Williams AV and Hills team with their award

deliver technology solutions that improve people's lives.'

Meanwhile, Williams AV's Japanese distribution partner,

Media Plus, won 2018 Exceptional Sales Growth Award.

'Media Plus has proven to be an extremely adaptable, responsive and knowledgeable team of professionals. They are viewed in the industry as innovative, as leaders in embracing new technologies. And they have brought Williams AV an array of new opportunities,' added Mr Persson.

www.hills.com.au

www.mediaplus.co.jp

www.williamsound.com

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bringing technology together

Matt Czyzewski named new president of Renkus-Heinz

WORLD: Renkus-Heinz has appointed Matt Czyzewski as its new president. Mr Czyzewski is well-known for his tenure at Biamp, which spanned more than two decades, starting as product manager and working his way up to the roles of VP, executive VP, COO and, finally, CEO.

'Matt Czyzewski's combination of engineering, business development, and progressive management experience makes him a great choice to lead Renkus-Heinz into the future,' said Harro Heinz, founder and CEO of Renkus-Heinz. 'Matt understands the importance of constantly innovating to develop new and



Matt Czyzewski

better technological solutions, and he thinks globally. We're thrilled that he will be our new president,

and we welcome him to the family.'

Mr Czyzewski explained that he has been impressed with the Renkus-Heinz sound quality for several years. 'Their speakers are used in many of the most impressive houses of worship, performing arts centres, and other top venues,' he said. 'It's an honour to have the opportunity to lead Renkus-Heinz's exceptional team to even greater success. Renkus-Heinz is that rare company that has been an industry legend for decades but never rests on its laurels, continuing to deliver new, groundbreaking products.'

www.renkus-heinz.com

Indian Christie veteran returns



Kanwal Brar

INDIA: Kanwal Brar has been named as the cinema sales director for Christie in India. His key responsibilities will be to develop and build upon Christie's sales channels within the Indian cinema market, re-establish direct

relationships with key accounts and to promote the manufacturer's new RGB laser projection products. Mr Brar will report to Don Shaw, Christie's senior director of sales for digital cinema in the Asia Pacific region.

Mr Brar worked for Christie for 10 years previously in various roles. In his time away from the company, he has launched several businesses of his own.

'In his new role, Kanwal will be accountable for the strategic focus of Christie's cinema sales efforts in India,' said Mr Shaw. 'His previous experience as part of the Christie family is a tremendous asset.'

www.christiedigital.com

Biamp makes Major appointment

WORLD: John Major has been hired by Biamp to fill the role of vice president of operations, in which he will oversee manufacturing, the supply chain and order fulfilment. Mr Major joins from Portland-based Summit Core Strategies, which develops and implements manufacturing and supply chain strategies for its clients.

'Biamp is one of the few sizeable technology companies still manufacturing in Oregon,' said

Biamp CEO and president Rashid Skaf. 'John's 35 years of experience will drive continuous improvement across operations and help us make the most of this unique, powerful asset. He possesses incredible insights into both the technology industry and manufacturing processes that will help Biamp's manufacturing operations keep pace with the company's rapid product line expansion and overall business growth.'



John Major

Mr Major described his new role at Biamp as an incredible opportunity. 'As a well-established, industry-leading brand, it's easy to admire what the company has accomplished and its future potential. I'm excited to be part of the leadership team that will write Biamp's next chapter.'

Biamp has also named David Woolf as its new senior director of global marketing. He

possesses more than 20 years of marketing experience with the likes of Steelcase, InFocus, NEC, Tektronix, and Andersen Consulting, and most recently ran his own consulting firm, and will oversee Biamp's corporate communications, product marketing, demand generation, web properties, public relations and social media.

www.biamp.com

Crestron hires SEA executive director

SOUTH EAST ASIA: Thomas Marcher has taken on the role of executive director of South East Asia at Crestron. With more than 20 years of experience in pro AV, 15 of which have been in Asia, Mr Marcher is well versed in building and managing distribution networks as well as sales operations teams.

'I'm delighted that we have secured Thomas Marcher as our new executive director of South East Asia,' said Stuart Craig, CEO of Crestron Asia Pacific. 'Thomas has an impressive track record of customer focus and his knowledge of the local AV market is second to none.'

Before joining Crestron, Mr Marcher served in various senior sales leadership and general management positions at Harman International in Singapore and Kuala Lumpur, Klotz Digital in Malaysia,



Thomas Marcher

Danish Interpretation Systems in Thailand, and TC Electronic in Denmark and China. He possesses a Bachelor's degree in International Business and is currently completing an MBA from International Management Education Singapore.

www.crestron.com

Green Hippo marches towards new sales strategy

WORLD: David March has been made the new head of sales and marketing at Green Hippo. He will report directly to Green Hippo's business unit director, Emma Marlow, and will be responsible for sales and marketing strategy across EMEA and Asia.

Mr March most recently served as head of VER Lighting Europe & Aurora Lighting. His career has also included a stint as general manager



David March

of Vari-Lite Production Services and roles at Philips Entertainment, PRG Distribution and AED Distribution.

'Hippotizer continues to go from strength to strength, and I look forward to helping the company grow further and faster,' commented Mr March. 'I am thrilled to be joining the most exciting and innovative brand in its sector.'

www.green-hippo.com

Victoria Dade joins AVIXA board

WORLD: AVIXA has added Victoria Dade to its board of directors. Ms Dade is the national partner director for Sonic Foundry, where she manages and recruits resellers, consultants and integrators for the company's Mediasite business through its Certified Partner Programme. She previously served on AVIXA's Leadership Search Committee and currently works on its Membership Committee and

Women's Council.

'We appreciate Victoria's willingness to serve again,' said David Labuskes, AVIXA CEO. 'Her experience on the Leadership Search Committee, insight into what AVIXA and its board are trying to achieve, and deep commitment to and enthusiasm for this industry will make her an invaluable asset.'

www.avixa.org

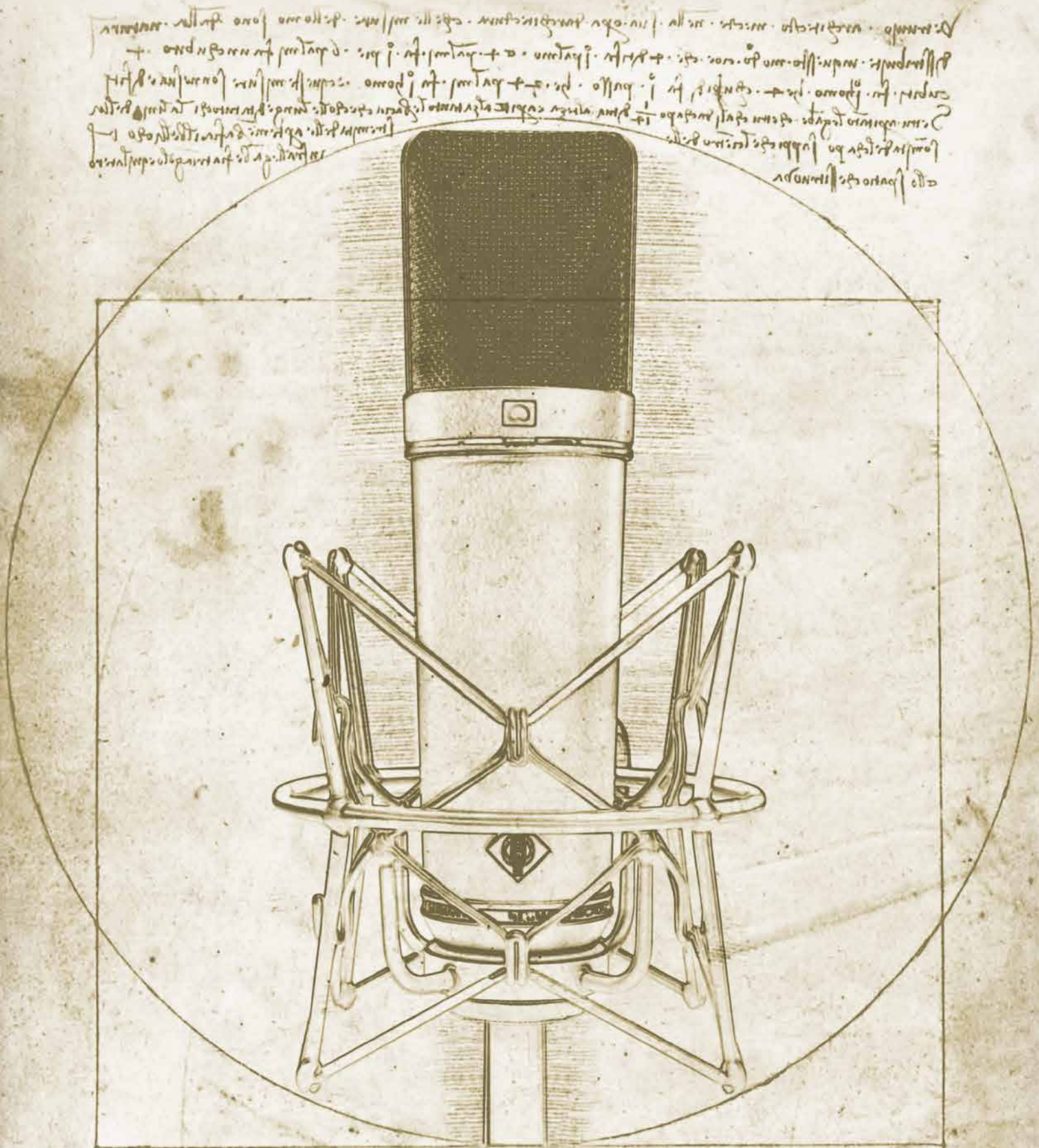


Victoria Dade



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Broadpeak expands APAC operations

APAC: Broadpeak, a manufacturer of video delivery components for content and network service providers, has appointed Kenth Andersson as its new director of sales in the APAC region. The company made the hire after a period of strong business growth in the region, and states that it is continuing to hire operational and support personnel at its Singapore office.



Kenth Andersson

In his new role, Mr Andersson will orchestrate sales strategies and work to increase revenue by assisting APAC customers with deployments of the Broadpeak's CDN, nanoCDN multicast ABR, BroadCache Box local video caching, and analytics solutions. He possesses a wealth of media and telecommunications experience, and his last role was as vice president of sales and

head of APAC at Net Insight.

'Our customers are facing a variety of content delivery challenges, from improving video quality to increasing scalability and lowering opex,' explained Broadpeak CEO Jacques Le Mancq. 'With Kenth integrating our APAC sales team, Broadpeak can better support the content delivery needs of operators and service providers.'

'As the first company to have deployed multicast ABR technology, Broadpeak is a forward-thinking company with fresh ideas and innovative solutions,' Mr Andersson commented. 'I look forward to bringing a dynamic, solutions-focused sales approach to the Broadpeak team, along with world-class customer service.'

www.broadpeak.tv

Nicholas Loe joins Danley to cover Asia Pacific Rim



Nicholas Loe

ASIA: Nicholas Loe has joined Danley Sound Labs as country manager for the Asia Pacific Rim region. This is a newly created role at Danley, which aims to help the

company better serve and grow its business partnerships in the region.

'Nick comes to us with a lot of management experience in both

contracting and distribution in the pro AV industry,' said JP Parker, director of sales at Danley. 'He is an incredibly energetic and positive person that has a strong understanding of what it takes to sell and support our product line.'

Mr Loe is excited to be part of the manufacturer. 'I am a believer in the technology and ideology of Danley Sound Labs and they truly manufacture some of the world's most innovative and best sounding products,' he commented. 'I look forward to the challenge of bringing Danley Sound Labs to the Asia Pacific Rim territories and changing the perception of how speakers should sound and work in spaces.'

www.danleysoundlabs.com

Hills hires NZ GM



Michael Collins

NEW ZEALAND: Hills has hired Auckland-based Michael Collins to serve as its general manager in New Zealand. He is tasked with driving customer engagement with Hills and value for vendors across the country.

Mr Collins possesses more than 20 years of experience in the security sector. He has held senior management positions with Gallagher Security and UTC Fire & Security. Hills CEO and MD

David Lenz explained that the appointment of Mr Collins coincides with the company's strategy to accelerate sales growth across its security and surveillance business, while also driving growth across all other divisions, such as health and AV, in New Zealand.

'Michael understands the NZ market and will utilise his local knowledge and networks to develop opportunities and capitalise on infrastructure projects planned for the future,' said Mr Lenz. 'His proven leadership skills will be invaluable as we re-focus the business and drive market growth to ensure Hills remains the leading value-added building technologies distributor across ANZ.'

'I'm looking forward to working with the NZ team and developing a plan to move the business forward,' added Mr Collins.

www.hills.com.au

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ADAM AUDIO

Trust Your Inner Ear

Paul Freudenberg joins PK Sound

WORLD: Paul Freudenberg has been named VP of global business development at PK Sound. The industry veteran will be part of the executive management team, guiding future growth, products and expansion, as well as managing global sales and marketing.

'Paul was instrumental in growing L-Acoustics in the Americas and continued that



Paul Freudenberg

success at Rat Sound,' explained PK Sound CEO Jeremy Bridge. 'Having helped grow one of our industry's premier loudspeaker companies, it's a natural fit. The fact that PK has a truly differentiating new technology has a number of parallels with Paul's previous success stories. Paul is also extremely well-respected in the field and he exemplifies the type of professional and personal culture we have at PK.'

www.pksound.ca

Lawo hires Patrick Warrington



WORLD: Lawo has hired Patrick Warrington as senior director of technical business development. Mr Warrington will support clients as they migrate to IP-based infrastructures, while also working alongside the Lawo Advisory Board to steer the manufacturer's strategy.

Speaking of his new role with Lawo, Mr Warrington said: 'It's rare to find an organisation that combines engineering talent, passion and

focus. I am really looking forward to being part of the team.'

www.lawo.com

Jamie Ward returns to Allen & Heath



Jamie Ward

APAC: Jamie Ward has rejoined Allen & Heath as sales director for the APAC region. He previously worked for the audio console manufacturer between 2000 and 2007.

'I cut my teeth at Allen & Heath, so in many ways this feels like returning home,' said Mr Ward. 'I've watched the brand growing and growing and feel incredibly excited to be able to bring my experience back to the fold to help it reach new heights in the dynamic, fast-evolving APAC market.'

In his new role, Mr Ward will travel throughout the APAC region to support distribution partners, working with them to help grow sales across vertical markets. In his time away from Allen & Heath, he held international sales positions with The Stanton Group, Harman and Community Professional.

'As our APAC business continues to grow, finding the right person for this role was critical,' commented Allen & Heath sales director Markus Sinsel. 'With his extensive international experience and solid history with Allen & Heath, Jamie proved to be the perfect fit.'

www.allen-heath.com






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Sharing the same aesthetic and sonic signatures as the acclaimed GEO M10 and compact M6 line arrays, the new GEO M12 takes its place as the flagship of the range, achieving a peak SPL of 140dB. And with great power comes great versatility, with integral rigging, a dedicated sub, plug & play power options and touring / installation versions making GEO M12 a system that performs at a whole new level in a wide variety of applications.



Thinking. Inside the box.



Pro audio solutions shake-up at Sennheiser



John Falcone

WORLD: The retirement of Sennheiser's long-serving SVP of global sales for pro audio solutions, John Falcone, has

sparked a domino effect within the manufacturer's pro audio solutions division. Mark Posgay has been named as Mr Falcone's successor, and has immediately appointed a new leadership team.

This new team comprises Christophe van den Berghe, who has been promoted to the role of VP of sales and marketing for pro audio solutions in EMEA, Simon Holley, who takes on the same role for the Americas and ANZ regions, and Vince Tan, who will serve as VP of sales for the division in APAC. Mr Tan will be responsible for securing channel growth and driving further business development for pro audio solutions in the APAC region.

Mr Falcone will officially retire in October. Until then, he will work



Mark Posgay

closely with Mr Posgay to ensure a smooth transition.

www.sennheiser.com

DAS appoints China GM

CHINA: DAS Audio has appointed a new general manager for its Chinese operations. Kan Wei only joined the team at the beginning of the year but is nevertheless a recognised face in the industry, having previously worked for a number of years at established Chinese distributor Budee.

'When you have a subsidiary in a country like China, ideally you need someone local to take that top management role and to lead the company,' explained Eduardo Lopez, who has been heading up the team in Shanghai for the past 18 months and who will be relocating back to DAS Audio's

head office in Valencia. 'Both myself and our sales manager have known Kan Wei for years. Relationships are really important and knowing the market and knowing the key players is vital. We are very happy as she brings with her those kinds of contacts and experience, and is perfectly placed to lead our future projects.'

'I've known DAS for a long time and have been really impressed with them as a company,' added Ms Wei. 'They have a great team here and I'm looking forward to raising awareness of the brand even more in China.' One of Ms Wei's first tasks will be expanding the brand into a number of areas including the stadium and touring segments.

www.dasaudio.com



L-R: Kan Wei and Eduardo Lopez

Alteros brings in sales and marketing veteran

WORLD: Audio-Technica subsidiary Alteros has hired industry veteran Jonathan Novick as director of sales and marketing. He will manage sales and marketing activities, reporting directly to Alteros president and CTO, Jackie Green. Mr Novick is described by the company as 'uniquely qualified to help propel sales of Alteros UWB wireless technology'.

Mr Novick's previous experience includes stints as VP of sales and marketing at Avermetrics, and director of sales at Audio Precision. A member of the Audio



Jonathan Novick

Engineering Society, he has served as its VP and governor and, most recently, as business manager for

the AES@NAMM programme in 2019.

'I am excited to join the team at Alteros, a brand that has distinguished itself in its relatively short history as being at the cutting edge of wireless audio,' Mr Novick commented. 'This is an ideal opportunity for me that leverages both my RF and audio backgrounds. I look forward to exploring new pathways in the marketplace for this game-changing brand.'

www.alteros.tech

Meyer Sound hires Silicon Valley expert

WORLD: Marc Chutczter has joined Meyer Sound under the newly created role of vice president of digital programme management. A veteran of Silicon Valley, Mr Chutczter will reportedly lead the way taking Meyer Sound in a new direction.

'Digital signal processing and networking technologies have become inseparable from today's leading-edge loudspeaker and acoustic systems,' said EVP Helen Meyer. 'The appointment of Marc Chutczter and the concurrent formation of a new cross-functional management team will enable Meyer Sound to maintain its lead in developing and bringing to market the world's most advanced, fully integrated solutions.'

Mr Chutczter's experience includes roles in project management at Hewlett-Packard, co-founder and COO of Design SHIFT and CEO at Kaertech. He will now guide Meyer Sound as it pursues new digital technology initiatives and the further development of current technologies, such



Marc Chutczter

as Constellation, spatial sound initiatives, Bluehorn System, M-Noise, MAPP, SIM and AVB networking.

'Meyer Sound has contributed a wealth of expertise to the audio industry over its 40 years,' Mr Chutczter commented. 'The digital team is a treasure trove of new ideas, and we'll be working hard to bring them to market while maintaining a commitment to the company's tradition of innovation and uncompromised quality.'

www.meyersound.com

QSC names live sound product marketing manager



Christophe Anet

WORLD: Christophe Anet has been appointed as product marketing manager for QSC's live sound division. He will be responsible for the creation, presentation, curation and refinement of product marketing content for QSC's live sound products and solutions.

Mr Anet first joined QSC two years ago as a product specialist for the EMEA region. He is fluent in English, French, German and Italian, and has a background in electroacoustic engineering, designing products, teaching, writing and providing customer

support across more than 70 countries.

Prior to working at QSC, Mr Anet was employed by Genelec, where his roles included education and training manager and technical editor. He has also been a project manager at architectural acoustics consultancy Walters-Storyk Design Group, and started his career at FM Acoustics in Switzerland. Mr Anet even once worked with the Swiss Federal Administration on environmental acoustics.

'My goal is to ensure that our live sound products' features and benefits are well-articulated and understood for the benefit of our channel and marketing partners, representatives and of course, end-users,' Mr Anet commented. 'Dedication to serving the many needs of our customers has always been at the heart of QSC's mission and this new role allows us the opportunity to expand our marketing capabilities even further.'

www.qsc.com



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Delta 20

Amplified control

XTA and MC² introduce first 1U amps

HAVING FOCUSED on the high-power end of the Delta and DNA amplifier ranges last year, XTA and MC² have shifted focus to the other end of the spectrum with the release of the Delta 20 and DNA20. Weighing 5kg, the models are the companies' first 1U amps and feature quad-channel designs aimed at applications where a mix of installation-friendly features and optimum sound quality are required.

A bespoke PFC supply delivers 350W per channel anywhere into any load down to 2Ω, and channels are bridgeable and linkable for ease-of-use. Also available is 100V/70V drive on a per-channel basis, and an auto-standby mode cuts idle power consumption by 50% with 'almost instantaneous' wake-up of less than 200ms.

In line with the other Delta non-DSP amplifiers from MC² and the DNA amplifiers from XTA, both models can be fitted with a 96kHz quad-channel Dante interface to give them networked audio capabilities, which can be reverted to analogue via a rear-panel switch. For installation use, the amplifiers also feature GPIO control and monitoring and a backup system that allows two amplifiers to be interconnected for seamless fallover in a fault or power-loss situation.



DNA20

In addition to the new '20' amps, the two manufacturers have showcased their 'features release' of firmware for the Delta DSP and DPA amplifier ranges. This includes new GPI control of the most critical amp features – input and output gain adjustments via VCA-type controls, mutes (including a system mute), standby control and memory recall. GPI control connected to one amplifier can be relayed onto additional models, and GPO monitoring gives feedback of power and protection states.

Also included in the release is a fallback system for input source selection, allowing the user to select primary, secondary and tertiary input sources and switch between them automatically in the event of a loss of signal. This can be either Dante (external routing changes or loss of signal) or AES (loss of signal), and will return to the highest priority source if conditions return to normal. Improved Dante

integration also includes the ability to reflect amplifier and channel naming (within AudioCore) to the Dante card, simplifying routing setup and assignment when using Dante Controller.

Finally, a bespoke, programmable, remote, eight-button wall panel – the DPanel-8 – has been introduced that can be programmed (by the user) to control gains, mutes, standby and recall memories on any Delta or DPA amplifiers, as well as working with other DP4 and 5 Series processors and DC1048. It is powered directly from a DPA or Delta DSP amplifier and uses the RS485 bus to ensure compatibility with all units.

Buttons can be programmed to work in groups for memory recall, and the LED backlight colour can be chosen per button, as well as the repeat time for gain adjustments, with selectable step-size and max/min ranges.

www.mc2-audio.co.uk
www.xta.co.uk

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Web-based amplification

AUDAC HAS developed the AMP203, an amplifier with network input via Dante, which allows a full media networking solution to distribute uncompressed

connector uses a four-pin terminal block connector with 30W output power per channel and 60W when bridged.



AMP203

audio across a standard Ethernet network with near-zero latency, while also allowing all other data to be connected on the same network.

The AMP203 relies on PoE to receive both power and signal through a single networking cable. It can reportedly be integrated into any new or existing system. Decentralising a system by integrating an amplifier at each zone enables individual control of the audio while it is also distributed over the network. The AMP203 also features low-pass, band-pass and high-pass filters, and all configurations can be made via RS485 or Ethernet. The output

Also new from Audac is the ARU20x relay module, designed for flexibility with myriad ways of switching the four, eight or more relays provided. Options include the integrated web interface, optional paging consoles and analogue contact triggering.

Meanwhile, the NMP40 Audio Streaming Sourcecon module allows users to playback from popular streaming services, such as Spotify, on a professional audio system via the cloud using a computer or mobile device as a controller.

www.audac.eu

Biamp offers freedom and security

BIAMP HAS introduced the first 'enterprise-ready, rack-mounted amplifiers with 100% asymmetric power distribution' with its new Tesira 1200.1 four-channel, 1,200W model with a single asymmetric bank, and Tesira 1200.2, a 2,400W amplifier with four channels and dual asymmetric banks. The manufacturer states that these give systems integrators 'the freedom to distribute any amount of available power with virtually no limitations', and that they are the only amplifiers to support 802.1X authentication, which makes them 'the most secure option on the market'.

Single-cable amplifier solutions, both Tesira models employ media and control via a

single port. The manufacturer's power distribution architecture enables designers and integrators to distribute anywhere between 1–100% of power available to any channel. They also support selectable impedance (4Ω, 8Ω, 70V or 100V) and patented delay equalisation on each channel, for additional system design flexibility. In addition, both models include an 'audible locate' feature on the front panel that allows installers to validate connected loudspeaker runs quickly.

Biamp has also introduced a vast range of other solutions recently. These include the announcement that Tesira conferencing solutions are now

certified for use with Google's Hangouts Meet hardware, and new capabilities for its SageVue browser-based monitoring and management platform, including systems monitoring and management for networked Tesira and Devio devices as part of the SageVue 2.0 release. New products include the Parl  family of beamtracking microphones, which sees the TCM-X ceiling and TTM-X tabletop models join the TCM-1 pendant; the desono speaker family, comprising the P6 and P6-SM, which are suited to retail, restaurants and other spaces requiring BGM; and the desono C-IC6 conferencing speakers.

www.biamp.com



Tesira 1200.1

LD Systems extends its network

WITH THE IPA series, LD Systems has expanded its growing installation portfolio with a series of DSP-based, four-channel installation power amplifiers. The new IPA412 (120W) and IPA424 (240W) feature integrated transformers on each channel providing 100V/70V tap and low-Z output down to 4Ω. Each model includes a slot for an expansion card, which can be used to control the IPA amplifiers including all DSP parameters, via Ethernet. Integration into larger installation networks is made possible with Dante AoIP connectivity. The DSP section includes PEQ with matched speaker library, dynamics, matrix mixer, priority source selector and delay. With the addition of a Controller Area Network (CAN) bus, the IPA series can also interact with remote units and paging microphones.

The German manufacturer has also created the first member of

IPA424

its IMA series of installation mixing amplifiers. Offering versatile input and output options and multi-stage priority switching, the IMA30 is a 2U model housed in a 9.5-inch chassis. Features include two mic/line inputs with +24VDC phantom selector, two stereo line inputs plus an integrated Bluetooth wireless signal input for connecting music sources and a priority input for emergency paging. Included are a powered 30W at 4Ω output in addition to a 70V/100V tap together with bass and treble tone controls. Optimum frequency response is achieved in low-impedance applications by virtue



IMA30



The DQOR series

of a low-Z/high-Z selector that separates the output signal from the output transformer. The IMA30 can also be used with external amplifiers, subwoofers or music-on-hold systems via the separate aux line output. The IMA30 offers four priority levels for emergency calls, mic/line inputs and connected music sources in addition to a selectable automatic standby mode for Energy Star certification.

The DQOR loudspeaker series is a line of installation loudspeakers created for both indoor and outdoor use. The newly designed

two-way systems are available as low-impedance (8Ω) and high-impedance (16Ω) versions with tap switch for variable power output in 70V/100V applications. Available in black or white finishes and in 3-, 5.25- and 8-inch formats, the speakers also incorporate an integrated wall mount plus a convenient slide-and-lock mechanism. The addition of an integrated connection panel allows the speakers to be connected without visible cable paths, while the 27-inch tilt and 45-inch pan mechanism allows exact positioning for precise sound coverage.

The Maui active column speaker system series has evolved with the introduction of a new I1 installation model comprising nine 3-inch woofers and two 1-inch, neodymium, high-frequency drivers together with an integrated 2.5-way crossover and 120W RMS power at 8Ω. The BEM-optimised, high-frequency waveguide provides precise adjustment of the vertical dispersion, ensuring homogeneous dispersion in acoustically



Maui I1

challenging environments. For seamless integration into constant-voltage loudspeaker systems, the Maui I1 has an input mode switch with 8Ω/70V/100V options and a power tap selector for high-impedance use with 60W, 30W, 15W and 7.5W taps. Available in black or white, flexibility is enhanced with the inclusion of a dedicated U-bracket for flexible wall and ceiling mounting.

www.ld-systems.com

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www.fbt.it - info@fbt.it

Independent control

APART AUDIO has added a raft of new offerings to its product catalogue. First off is two multifunctional stereo preamplifiers: Prezone1 with two stereo volume zones and Prezone2 with two stereo source and volume zones. The units reportedly boast a higher signal-to-noise ratio, ease-of-use, a logical design and versatile installation features. Both preamps provide two mics with balanced mono mic/line input and mono summed stereo RCA, along with four stereo line music inputs. There is an independent mono/stereo switch per zone and independent dual tone control of the music source per zone on the rear panel.

The P60DT is a 6.5-inch, two-way pendant loudspeaker for rooms with high ceilings or large open spaces. Available in black and white, the P60DT comes with



APDI

a dual Gripple wire suspension system, a Euroblock in/out connector, loudspeaker cables and a 70V/100V power rotary with 16Ω connectivity and can be hidden after installation by a specially designed end-cap.

The APDI analogue to Dante audio converter enables users to connect any analogue audio device to a Dante network. Users can connect balanced or unbalanced, stereo or dual mono line level signals to the RCA or Euroblock input of the APDI and then only one RJ45 cable is needed to link

current audio signal status. Both converters are built in a slim IU half-rack unit wide chassis without front panel controls.

The PMR4000RMKIII is a multi-source music player with an integrated FM RDS/DAB/DAB+ tuner, internet radio, Spotify



PMR4000RMKIII

to the Dante network. The APDI is compatible with DDM, while input channels 1 and 2 have a rotary gain control and clip LED indicator on the rear that allows users to easily configure the input signal. Similarly, the APDI analogue to Dante converter allows users to send audio to any analogue device over the Dante network. Channels 1 and 2 have a front and rear clip-overload LED indicator and signal -40dB on the front displaying the

Connect, UPnP and a USB media player that allows users to play any file (MP3, WMA, FLAC or WAV) located on any networked device. The PMR4000RMKIII can be controlled via an iPad, iPhone, iPod Touch or any Android device. The UNDOK from Frontier Silicon app connects automatically with the PMR4000RMKIII and allows full control of the device, including source and media selection.



Prezone1



The P60DT in black

Finally, the SQGR is an optional square grille with integrated safety wire that fits all loudspeakers in the CM Design Series. The adaptor has been designed to suit contemporary interior styling converting every round CM Design loudspeaker into a loudspeaker with a square grille. For the smaller loudspeakers in the range, adapter rings are provided in the box. The grille measures 295mm x 295mm x 5.5mm (HxWxD).

www.apartaudio.com

QSC expands Q-Sys Ecosystem

THE CX-Q Series of network power amplifiers for the Q-Sys Ecosystem feature four- and eight-channel models that can take advantage of network routing capabilities as well as advanced processing, control, monitoring and loudspeaker output load. The amps also assist Q-Sys in deploying signature QSC technologies like Intrinsic Correction, which maximises QSC loudspeaker performance and protection. Both four- and eight-channel models include Q versions, with network inputs as well as routable mic/line audio inputs that provide additional on-ramps to the Q-Sys Ecosystem, as well as Qn versions that feature only network audio inputs to reduce system cost when additional inputs are unnecessary.

The CX-Q Series incorporates a Class-D hybrid powertrain design built on the PL380 PowerLight amplifier platform. The amps also feature two QSC amplifier innovations: FlexAmp and FAST (Flexible Amplifier Summing Technology). FlexAmp allows for asymmetric output channel loading by drawing



CX-Q Series

from large power reserves and distributing customised output power levels per channel. FAST allows channels to be combined to deliver either higher voltage loads (up to 200Vrms output) or higher current loads (up to 35A). Together, these technologies are said to help expedite installation while decreasing overall system cost by reducing wasted power and channels.

QSC has also announced a collaboration with Google Cloud that allows Hangouts Meet hardware users to extend their

video conference experience to larger, more complex environments. As a result of this collaboration, the Q-Sys Core 110f processor is now certified for Hangouts Meet hardware solutions. This allows installers to integrate audio from Q-Sys Core 110f to Hangouts Meet hardware via a simple USB connection, providing access to I/O count, software-based acoustic echo cancellation, room combining and advanced EQ capabilities.

www.qsc.com



Boreal FET Compressor

Tierra takes compression to the max

TIERRA AUDIO has unveiled its Boreal FET Compressor which offers gain reduction through a FET transistor. It is described as having the capacity to generate extensive gain reductions in a transparent way and can bring all the elements that comprise the mix to the foreground. It reportedly avoids degradation, has an extended transparency and a musical pumping, allowing users to compress their takes to the maximum, without losing any character.

The Spanish manufacturer has also released a solid-state preamp with a slow transient response rate. Lava incorporates two sound modes (classic and modern) and three inputs (microphone, line and instrument). It reportedly offers total recall and remote control, along with no added harmonic distortion and gain levels up to 80dB. The power supply is 100% isolated from the digital system to avoid noise

transfers and promote stability. The manufacturer's patent-pending BMI technology is said to allow users full digital control and recall of the device's functions and manage features from a plug-in inserted in the DAW that allows self-recognition of the hardware route and automatic latency compensation.

Users can also access the device from a mobile app without running the risk of adding sound distortion to the original analogue signal. The device is also connected to Tierra Audio's Cloud Services to provide access to internet services and allow users to monitor the preamp's internal performance while keeping an eye on environmental conditions, such as voltage, magnetism, pressure, temperature and humidity. The device is built with gold-plated Neutrik connectors and a corrosion-free aluminium case.

tierra-audio



A new generation of Ashly

ASHLY AUDIO has announced the start of a new generation of pro AV products. The first arrival in this generation is the mXa-1502 mixer amp, designed as a rack-mountable integrated solution with mixing and DSP for four zones and a pair of 150W programmable mic preamps.

'For users, the mXa-1502 means processing 12 audio inputs into four different areas of a restaurant, school, office, warehouse complex, church or other facility, all from a single rack space device,' explained Ashly's Noel Larson. 'There is a rich complement of digital signal

processing, including routing, auto-mixing, ducking, amplifier monitoring, event scheduling and triggering.'

The mXa-1502 also features a built-in web server, for web-based control. This means that if an end-user requires assistance, the systems integrator can log in remotely via the internet to take control.

In an effort to ensure the mXa-1502 is easy to use, different levels of control can be selected, from beginner to integrator.

www.ashly.com

Outline maximises efficiency

DESIGNED FOR a broad range of installed applications, Outline's Ki-Series is an application-flexible, compact loudspeaker concept. Both models (Ki-12 and Ki-10) are said to maximise efficiency and cost-effectiveness with internal crossover networks, a small footprint, integral mounting points and very high SPL capability. The speakers also feature rotatable horns that can be adjusted without any disassembly of the device.

Outline has also extended its Cinema Series with the MV1CX. The high-powered, slimline, coaxial design is ideal as a main system component for smaller cinemas and may also be used as the centre speaker in L-C-R arrangements. Its



MV1CX

small footprint features side-located reflex ports to eliminate LF-induced screen vibration.

Another new Outline loudspeaker is the Monaco 215 CX containing two 15-inch LF transducers, one of

which features a coaxially loaded, 3-inch diaphragm compression driver. The enclosure can be driven either passively (by a single amplifier channel) or biamped, and is ideal for a wide range of small- and medium-sized sound reinforcement applications. It is also compatible with various Outline

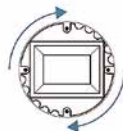


Monaco 215 CX

subwoofers if further LF extension is required.

Two major software releases have also been announced: v.93 firmware for the Newton digital hub and v1.8.1 for the Dashboard remote control application.

www.outline.it



The Ki10 and Ki12

PASSION

BUILT IN

K-array lays a discreet track

A STANDOUT solution at this year's ISE was K-array's Rail, a product that combines audio and lighting. Rail is a 1.2m line of warm, homogeneous linear LED lights that houses full-range cone drivers. Several combinations are available to cover a wide range of applications.

All Rail options are available in black or white and include three 5-inch glass fibre audio transducers designed for maximum excursion. The inclusion of full-range speakers negates the need for subwoofers. Up to 12 Rail units can be driven by a single channel of the manufacturer's four-channel Kommander-KA02 amplifier, meaning that one amp can power 48 Rails. Once powered up, Rail

K-array's Rail

offers plug-and-play capability and Bluetooth connectivity, as well as USB ports and a mini-jack input. If more powerful sound is needed, Rails can be combined with K-array's larger Kommander amp and paired with its subwoofer families. Rail models are driven at 24V. Versions are also available with DALI included, allowing for

individual management of each unit for functionality such as light dimming.

Multiple mounting options and dedicated accessories are also available for Rail. The Pendant model is when Rail is surface-mounted to the ceiling. The Semi-Flushed model reduces the visibility of the unit, while the

Flushed version is completely inlaid in the ceiling. A Suspended version provides a hanging option, while the Applique version can be surface-mounted to the wall. Other mounting options include corner Rails and complete systems in the T-models.

In other news, K-array has us wondering whether it has developed

a shrink-ray, as it has launched several miniature speaker systems. For starters, the new Azimut-Kamut2L1 system is formed of two mini 1.5-inch-long Lizard-KZ1 loudspeakers, an ultra-compact Truffle-KTR24 subwoofer and a 14cm x 14cm x 2cm Kommander-KA02 amplifier. The Azimut-Kamut2L14 is composed of two 10-inch Lizard-KZ14 loudspeakers, an ultra-compact Truffle-KTR25 subwoofer and a Kommander-KA02 amplifier. The Azimut-Kamut2V25, designed for when a longer throw is required, comprises two 25cm-long Vyper-KV25 loudspeakers, a Truffle-KTR26 and a Kommander-KA02 amplifier.

www.k-array.com

Bose enters the Arena



ArenaMatch DeltaQ modules

BOSE PROFESSIONAL has added DeltaQ array technology into its ArenaMatch DeltaQ array loudspeakers. Designed to better match coverage towards the audience area, directivity (Q) is configured to enhance the consistency, vocal clarity and flexibility in outdoor installations such as sports stadiums and arenas. The IP55-rated ArenaMatch DeltaQ modules come with nine coverage patterns spanning

10°, 20° or 40° vertical coverage patterns. These can be swapped for 60°, 80° or 100° horizontal waveguides – even in already assembled arrays – when adjusting horizontal coverage and creating asymmetrical patterns.

ArenaMatch cabinets can be used for a customised outdoor solution, whereby 40° modules can be deployed for point source applications, while 10°, 20° and 40° modules can be adopted for

line arrays. Incorporating the same EMB2S compression driver, a similar tonal balance and seamless zone-fill coverage is enhanced when combining ArenaMatch and ArenaMatch Utility loudspeakers.

Designed to interface with PowerMatch amplifiers, ControlSpace DSPs and ControlSpace Designer software – including Dante connectivity – ArenaMatch modules incorporate a 14-inch neodymium woofer together with six Bose EMB2S titanium-diaphragm neodymium compression drivers in each module. Weather-resistant features include a three-layer stainless steel grille, water-resistant woofer cone coating, a polyurethane exterior finish and a moulded input cover. Biamp capability, a passive crossover and 70V/100V transformer inputs are included within the ArenaMatch modules, while M12 threaded inserts with internal steel link bars ensure adoption for accessory mounting hardware or custom array frames.

Designed for zone-fill coverage or high SPL foreground music, the ArenaMatch Utility series is housed in a more compact IP55-rated cabinet. The four models offer wide, even coverage via a constant-

directivity, high-frequency horn that can be rotated for horizontal or vertical installation. The AMU208 module is the largest of this series operating within a 70Hz to 16kHz frequency response and capable of producing a maximum SPL of 126dB.

The ControlSpace EX processor range has been expanded for use in conferencing rooms. The EX-440C and EX-12AEC processors facilitate high-quality microphone integration in small-to-medium, standalone meeting rooms. Flexibility is enhanced with the addition of four mic/line analogue inputs, four analogue outputs, VoIP and PSTN, USB, Bose AmLink output, eight-channel acoustic echo cancelling and 16x16 Dante connectivity. Designed for more general-purpose applications, the

EX-1280 single-rack-unit processor integrates 12 mic/line analogue inputs, eight analogue outputs, Bose AmLink out and 64x64 Dante connectivity. The adoption of ControlSpace Designer software simplifies set up processes with drag-and-drop programming and conference-specific software tools.

Finally, Bose has added two accessories to its S1 Pro PA system. A play-through cover is available in multiple colours, while a pre-installed, rechargeable, lithium-ion battery pack and compatibility with the Bose Connect App for streaming Bluetooth audio to up to two S1 units have been added. Other accessories include the S1 Pro backpack and S1 slip cover.

www.pro.bose.com



ControlSpace EX processors

Eliminating vibration

ISOACOUSTICS HAS added to its line of isolation solutions for loudspeakers, stage monitors, subwoofers and musical instrument amplifiers with the Stage 1 isolators, said to eliminate the vibrational variables that touring musicians experience while

playing onstage. The isolators are sold as a pack of four which can either be screwed directly to the bottom of the amplifier or attached to a board to create an isolation platform for supporting equipment.

The isolators' rugged aluminium housing features a very low-profile



design, with a height of 1.5 inches, enabling the equipment to maintain a low stance, and allowing them to fit easily inside their road cases. This is said to support a quicker set up and sound check time while on tour, eliminating the variables of

stages in different locations. The isolators can support a maximum weight of 90kg per set of four and are designed for equipment ranging from small bass combo amps to 4–12 stacked cabinets.

www.isoacoustics.com

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www.lawo.com

DAS reissues a call to Action

DAS AUDIO'S Action 500 Series comprises eight active and eight passive loudspeaker models, a 12-inch monitor, three subwoofers and 8-inch, 12-inch, 15-inch and dual 15-inch, full-range systems. The new 500 Series models provide an upgrade to both the design and physical feature set

of the company's popular Action series.

Powered by a new Class-D amplifier, the Action-508 incorporates a newly designed DAS 8GV transducer and M-34 compression driver, while all full-range systems in the Action series have new horns that are said to provide improved

frequency response on both the vertical and horizontal planes while offering a wider 90° x 60° dispersion. The horns can be rotated to maintain coverage coherency when used in the horizontal position, while the Action-512/512A and Action-515/515A have dual-angle pole mounts (0° and 10°) that make it

possible to adapt the coverage when required.

All of the active systems incorporate a mixer with two inputs. DAScontrol technology accessed via a rear-located LCD screen enables the selection of up to three different presets (Live, Dance and Monitor), as well as HPF and LPF filters that optimise the systems when used with subwoofers. The powered systems provide the option of using the logo as a limit indicator, which can easily be viewed from the cabinet front.

The subwoofers of the series boast improved performance as a result of a new high-excursion transducer (18FW) designed by DAS and said to achieve 'clarity and high power' in the reproduction of low frequencies.

The enclosures themselves, meanwhile, are constructed of birch wood and coated with black ISO-Flex paint that is designed to achieve high durability and resistance in the most demanding environments.

www.dasaudio.com



Extending the bass

ADAM AUDIO'S T10S is a compact, active, 10-inch subwoofer equipped with a 130W Class-D amplifier. It has a frequency response of 32–120Hz and has been designed to extend the bass response of the manufacturer's T Series studio monitor speakers. An internal, adjustable, two-channel crossover



allows calibration of the bass signal and provides optimal performance of the total system.

The T10S' performance, features and connectivity have been designed specifically to complement the manufacturer's T5V and T7V nearfield monitors, and can also be used with other compact monitoring speakers.

www.adam-audio.com

More bandwidth for Yamaha's L2 switches



SWP2-10SMF

LEADING A series of recent releases from Yamaha is the manufacturer's new SWP2 series of L2 network switches, which facilitates better bandwidth than its predecessor, the SWP1 Series, via twin 10G uplink ports with opticalCON connectors. The SWP2 switches are stated to provide enough bandwidth for stable Dante networking at 96kHz, even over long distances.

Available in both multi- (SWP2-10MMF) and single- (SWP2-10SMF) mode models, two optical fibre cables can be connected and link aggregation activated to provide trunk line redundancy via spanning tree (MSTP) protocol. Simple setup can be achieved by the 'Optimise for Dante' switch setting, while the SWP2 switches also allow the relevant settings for stable Dante network operation (QoS, EEE, IGMP Snooping and others) to be

Windows offers visual monitoring of network load, switch status, Dante device info and other essential information via a single central display. It is possible to take a 'snapshot' of normal operating status and trigger an alert if any variation from the norm



The VXC2F and VXC8S

optimised via a single DIP switch. The SWP2 series switches include three built-in VLAN presets that can be selected via a DIP switch for efficient network use. A User mode that enables custom VLAN setup is also provided.

Indicators on the switches show which connectors are assigned to VLAN subdivisions, while Yamaha's LAN Monitor application for

is detected, allowing problems to be quickly identified and rectified. etherCON and opticalCON network connectors help to prevent accidental disconnection at temporary installations, with a compatible V-lock AC power connector. An XLR-4-32-type external DC input connector is also provided for an optional PA-700 power supply unit (+24V)

where power supply redundancy is required. All SWP series network switches are rack-mountable.

In addition to the network switches, the VXC series of ceiling loudspeakers has gained two new additions. Featuring a newly developed 2.5-inch driver, the VXC2F is the shallowest model in the VXC series, with a depth of 76mm. Weighing 1.9kg and with a diameter of 225mm, it offers a conical coverage angle of 160°, sensitivity of 86dB SPL, a 67Hz to 20kHz (–10dB) frequency response and power rating (PGM) of 30W.

With switchable low-Z (8Ω)/high-Z inputs, the VXC2F is suitable for background music playback. The shallow depth and light weight also make it installation-friendly, together with a magnet catch grille, carrying handle and black or white (paintable) colour options. Mounting options include the PK-C4 pendant mount kit, available in black or white (paintable) finish.

The VXC8S, meanwhile, is the first ceiling subwoofer in the VXC range. Also designed for background music playback, its bandpass-type structure (with a

frequency response of 44Hz to 280Hz, sensitivity of 88dB SPL and low-Z: PGM 200W, Hi-Z: 3.8W to 60W in 4/5 steps) makes it an ideal solution for retail stores and larger restaurants where additional low frequencies are needed. Measuring 325mm x 315mm (WxD), installation is optimised with features including anti-drop tab, carrying band, magnet catch grille and black or white (paintable) colour options.

In addition to these new products, several firmware updates have been announced recently. The new Rivage PM V3 firmware adds a number of refinements, including the new DaNSe dynamic noise suppressor plug-in, Mix to Input routing and other workflow improvements to Rivage PM series consoles. Lastly, a new 1.1.1 version firmware release from Yamaha Unified Communications for the CS-700 Video Sound Collaboration System improves camera performance and adds access to image setting controls to make achieving high-quality video easier.

uc.yamaha.com
www.yamahaproaudio.com

Next level performance in a versatile format

VERO VX



Vero VX's more compact format brings Vero sound to a wider range of venues.

Funktion-One's unique driver and waveguide technology ensures vocals and musical harmonics are coherent in time and space, providing benefits in clarity, intelligibility and immersive stereo imaging.

The high crossover point to the compression driver means increased headroom and reduced harmonic and modulation distortion. The very high electroacoustic efficiency of the horn-loaded mid/high section is supplemented by new bass driver technology - up to eight Vero VX cabinets can be powered by a single amplifier.

Vero VX's patented Lambda rigging system ensures accurate array alignment. The naturally flat response does not require corrective EQ, thus preserving headroom and phase coherency, resulting in very clean output, even at maximum power.

by **FUNKTION-ONE**

www.vero-system.com

LA family expands

THE LA122.V2 has joined Next-proaudio's LA family and is the redesigned version of the LA122, integrating the same internal components into a smaller and lighter box. The 12- and 1.4-inch neodymium speakers, custom-made by B&C, are capable of generating

constitute an 'extremely advanced and precise' drive system for the enclosures. The cabinets can be finished in a variety of colours to suit fixed installations.

The N-RAK family consists of four models – N-RAK20, N-RAK40, N-RAK60 and N-RAK80 – all equipped with Powersoft X8 and/or X4 amplifiers and featuring optional Dante audio networking functionality. The solution was created as a universal platform developed to aid cross-rental

between the manufacturer's worldwide users and to ensure compatibility with the cabling standard of the systems. AES3 and analogue inputs for multiple connections are also included.

The Portuguese manufacturer has also developed its LA26 to deliver high SPL levels from the front row to the back of the audience. The LA26 is a two-way, full-range, passive line array cabinet housing two 6.5-inch neodymium flat diaphragm

drivers located in the side walls of the HF oblate spheroidal waveguide, a 2-inch diaphragm HF neodymium driver and a passive network crossover presenting a nominal input impedance of 16Ω. A three-point, auto-locking rigging mechanism is integrated for building ground-stacked or flown systems.

The waveguide and coplanar transducer configuration is said to generate coherent wavefronts uniformly spread in the horizontal plane (105°) and coupled in the vertical plane without sacrificing HF presence in the far field. Measuring 498.5mm wide and weighing 15kg, the cabinet is suited for concert halls, theatres and venues demanding minimum visual obstruction, as well as for small- and medium-sized venues, such as stadiums and corporate AV events. It can be flown in arrays for use as a main system or configured as single cabinets or short stacks for use as front-fills and under-balcony-fills. Using an adaptive flying frame, the system can be coupled with larger LA systems.

www.next-proaudio.com



N-RAK

LA122

1,120W of high-definition power for medium- and large-scale touring and permanent applications. The system comprises three models: two line arrays with different coverage angles (8° x 90° for the LA122.v2 and 15° x 120° for the LA122W.v2) and the LAs118.v2, a companion subwoofer system with a wide configuration. The LAs118.v2 is equipped with a custom-made B&C, long-excursion, 18-inch neodymium woofer and shares the same rigging technology as the LA122.v2 and LA122W.v2.

For touring applications, the LA122.v2 can be associated to the N-RAK, a universal distribution platform for power, audio signals and network. With the dedicated factory presets, the Powersoft X8 and X4 amplified controller integrated on N-RAK is said to

To the four for L-Acoustics



WITH THE launch of X4i, L-Acoustics has created its smallest loudspeaker to date. The unobtrusive, IP55-rated coaxial model weighs less than 1kg and measures only 99mm in depth, yet retains the French manufacturer's sonic signature of the Arcs and Kiva series. Designed primarily for fill applications in performing arts centres and

houses of worship, the X4i can be discreetly installed in walls, stair risers, stage lips, pit rails and under balconies. In addition, the enclosure can provide vocal reinforcement in settings such as conference rooms, museum exhibits and hospitality venues. When combined with a Syva Sub, the X4i can be deployed for background music applications. The weather-resistant X4i boasts a watertight design with a rear sealing plate, allowing integration in challenging climatic or outdoor environments. Versatile mounting accessories enhance the X4i's flexibility of use in a wide range of applications.

www.l-acoustics.com

Audiocenter launches i Series

AUDIOCENTER'S RECENT R&D efforts have resulted in the i Series, which can be combined for a complete commercial audio solution. The series is developed for the fixed installation market and features a modular design. To ensure it will appeal to all manner

of commercial spaces, including retail and hospitality outlets, amusement parks and transport hubs, the manufacturer has carefully considered integration, reliability and aesthetics as part of the systems' development.

The i Series comprises seven speakers and two subwoofers. The i3, i4, i6 and i8 are all full-range point source speakers of various sizes, the number in each speaker's name corresponding to the size of its driver in inches. Meanwhile, their siblings, the i43, i83 and i65, are full-range column

speakers. The i65 includes six 5-inch drivers, the i43 possesses four 3-inch drivers and the i83 has eight 3-inch drivers. The 8-inch iW8 and the larger 12-inch iW12 are the two subwoofers available in the range.

The speakers support both voltage output (70V or 100V) and impedance output. Users can make the switch using the knob on the back panel, according to the working environment. The i3, i4, i6 and i8 can be used individually or linked together as an array to provide wider coverage and a higher SPL. The speakers are rated IP65 for waterproof and dustproof requirements.

www.audiocenter.net

i65 x2



i83 x2



i43 x4



i8 x4



i6 x8



i4 x12



i3 x18



Martin Audio takes a long bow

THE WAVEFRONT Precision Longbow (WPL) is the newest addition to Martin Audio's Wavefront Precision Series of line array speakers. It has been developed for large-scale touring applications and installations, including use in stadiums and at houses of worship. WPL is designed as a 'complete system' with external iKon multichannel amplifiers, Martin Audio's automated Display optimisation software and the Vu-Net control platform.

A three-way, biamped system, WPL makes use of the manufacturer's horn-loading technology across all frequencies, including the acoustic output of the low-frequency section. It includes dual 12-inch drivers with Hybrid horn/reflex loading, two 6.5-inch cone drivers on a midrange horn that covers the vocal frequency range from 300Hz to 4kHz and a trio of 1-inch exit HF drivers that operate from 4kHz and up. Each frequency section includes a range of horn-loading refinements to raise the WPL's acoustic performance in terms of output and 90° horizontal coverage patterns for the mid and HF horns. The maximum peak outputs of the LF, mid and HF sections are 139dB, 140dB and 145dB, respectively, per enclosure at 1m and 6dB crest factor.

Martin Audio's WPL

Also new is the SXC118 cardioid subwoofer, which forms part of what Martin Audio describes as its subwoofer overhaul. Like the WPL, the SXC118 is built for touring and installation sound. It incorporates an 18-inch, forward-facing driver and a 14-inch, rear-facing driver. Each is individually driven by separate channels and DSP from an iK42 amplifier and has its own chamber with optimised bass-reflex porting. This arrangement is said to produce a cardioid dispersion pattern that maximises front radiation while reducing unwanted radiation behind the subwoofer.

www.martin-audio.com



PSA gains confidence

POINT SOURCE Audio (PSA) has unveiled its patent-pending C02 Confidence Collection microphones. The wireless microphones have dual elements offering built-in redundancy and a slimline design. Available in

dual miking system that is barely detectable.'

The backup element is fashioned to the existing mic in tandem, and the independent and continuous wire paths are integrated into a singular wire jacket to give audio technicians an alternative to cable dressing. The mic cable splits

Rock-solid RF

TO ALIGN with the latest RF regulations, Electro-Voice has announced the launch of the RE3, a UHF wireless microphone system following in the footsteps of its predecessor, the RE2. RE3 receivers and transmitters are available in 10 pre-packaged sets, configured to cover a wide range of performance and presentation applications. Sets contain one ½-rack-space diversity receiver with antennas, universal power supply, rack-mount kit, transmitter, batteries and an input device. The RE3 also contains an assortment of accessories to create large, multichannel systems. Five handheld system sets are available with a choice of interchangeable mic capsules: the ND76, ND86, ND96 (dynamic) and the RE420 and RE520 (condenser). Five bodypack system sets are available for instrument and lavalier/headworn microphone applications: the OL3, CL3 (lavalier), HW3



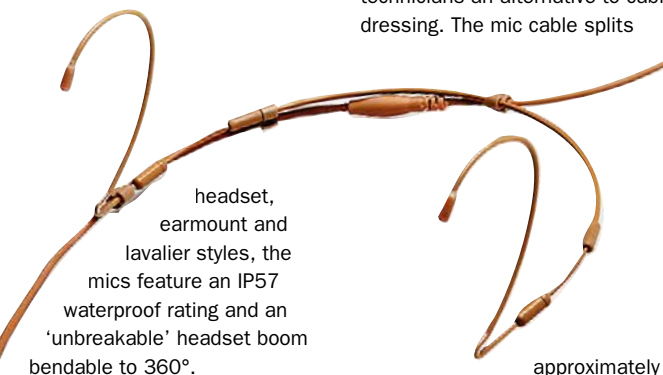
The RE3 system

(headworn), GC3 (instrument cable) and one bodypack-only system.

The RE420 and RE520 are the next generations of the RE410 and RE510, respectively. The RE420's cardioid pattern reportedly combines 'acoustic control with a comfortable working range', as well as 'a warm, low-frequency response, open mids and clear highs'. The RE520's supercardioid

pattern also claims to ensure superior sonic isolation and high gain-before-feedback, to maintain a vivid vocal presence – even in the most challenging stage environments. Both are suited for high-quality stage performances and productions, club and concert sound, touring artists and house of worship praise bands.

www.electrovoice.com



headset, earmount and lavalier styles, the mics feature an IP57 waterproof rating and an 'unbreakable' headset boom bendable to 360°. 'Double miking can be heavy lifting when it comes to the cabling; that's why our C02 Confidence Collection is specifically intended to ease the workload of many A2s and sound engineers working in live mic applications,' said Yvonne Ho, PSA's vice president of sales and marketing. 'The new form factor pairs our smallest elements at roughly 3mm each to create a

approximately 9 inches above connection to the bodypack to allow ample room for separation of the transmitters. The microphones also feature precisely matched elements to a near identical $\pm 0.5\text{dB}$ difference so when a vital backup is initiated, any difference in audio performance is nearly undetectable.

www.point-sourceaudio.com



WWW.HHELECTRONICS.COM
INFO@HHELECTRONICS.COM



M3000

The HH M Series power amplifiers are ultra-high power, flexible 4 channel 2U rack amplifiers designed to provide maximum performance.

- Four Channels, Bridgeable to 2, 3 or 4 Channels
- Balanced XLR In and Link Out x4
- Ultra-Light, Class D
- Heavy Gauge 2U chassis
- High Quality, over engineered Universal 90-260V Regulated Power Supply
- Anti-Tamper Panel Included
- Output Power: 3kW Max
- Minimum impedance: 2 ohm

TNi-4030

The HH TNi-4030 cabinet is an ultra-compact full range loudspeaker in the Tessen Installation Range. It is designed to provide maximum performance in its class and be visually unobtrusive. It is designed primarily for fixed install use.

- 4 x 3" Full range Passive Speaker, Bass Reflex
- 90°H x 30°V directivity enables precise control of sound field
- Compatible with wide range of industry standard mounting hardware, including the HH bracket (HH-BRK10 available separately)
- Weatherproof IP55 rated enclosure
- Frequency response (-10): 85 – 20kHz
- Max SPL (1M) (Peak): 112dB
- 400W Peak, 200W Continuous, 100W RMS
- Nominal System Impedance: 8 ohm
- Injection Moulded Cabinet
- White or Black finish



Wireless audio made easy

AIMED AT providing musicians and videographers with an easy entry into wireless audio, Sennheiser's XS Wireless Digital (XSW-D) replaces the cable with compact transmitters and receivers that work on 2.4GHz for worldwide, licence-free operation. Transmitters and receivers can be freely combined so users can opt for a wireless link that will protect their existing microphone investments or select one of the fully equipped wireless microphone sets. 'The series is ideal for first-time wireless users,' said Tobias von Allwörden, senior product manager with Sennheiser, 'be it a guitarist who wants to move onstage freely or a content creator who wants to take his or her video projects to the next level with wireless audio.'

The XSW-D uses the aptX Live codec. The receivers have antenna diversity; the transmitters work



The XS Wireless Digital vocal set

redundantly, transmitting all data packages twice to ensure reliable transmission. In case of interference, the transmitter and receiver will seamlessly hop to a free frequency. Audio latency remains below 4ms. Up to five systems can be used simultaneously and they have a range of up to 75m. The transmitter and receiver units can be recharged via USB using the included charging cable and work for up to five hours on a single charge.

In other news, Sennheiser has added to its family of professional IEMs with the IE 400 Pro and IE 500 Pro.

'For the IE 400 Pro and IE 500 Pro, we have reinvented the single dynamic driver principle,' explained Jannik Schentek, product manager with Sennheiser. 'Other in-ears in the same price range work on the balanced armature principle, which we find to be inferior to a wideband dynamic driver. Balanced armature earphones require multiple drivers

to reproduce the frequency range. The IE 400 Pro and the IE 500 Pro, on the other hand, use a single high-performance dynamic driver that covers the entire frequency range with ease, resulting in a distortion-free, detailed and accurate sound reproduction.'

This single-driver technology, termed TrueResponse, is said to ensure a natural, clear and spacious sound stage with a total harmonic distortion (THD) under 0.08% at 1kHz and 94dB. When the sound is so precise and detailed, the acoustical stress for the wearer is reportedly reduced. With the driver measuring only 7mm in diameter, the IEMs feature a comfortable ear mould, which is ergonomically shaped, has a low profile and is lightweight. They come with silicone ear adapters in various sizes and special ear tips made from memory foam, which expand to fit the ear canal.

Finally, Sennheiser has updated its Control Cockpit software to version 3.0.0 to support the TeamConnect Ceiling 2 microphone and the ew G3 and G4 IEM transmitters.

www.sennheiser.com



IE 400 Pro

Lewitt makes a Match

AUSTRIAN MANUFACTURER

Lewitt has released its 'most affordable ever' condenser mic. The LCT 040 Match is available as a single pencil mic as well as a stereo pair package. It has a stripped-back, ergonomic design for maximum positioning flexibility, even in restricted spaces. Inside the compact metal housing,



the custom-designed capsule is optimised with instant transient



response for the natural qualities of acoustic instruments. For the LCT 040 Match stereo pair, Lewitt is using a custom-developed process that analyses the microphones and couples those showing identical behaviour. This is said to introduce new possibilities for users striving for the best stereo recordings of drum overheads, acoustic guitars and even choirs.

Similarly, the LCT 140 Air includes off-axis sound suppression, pre-attenuation and low-cut filter, while the Sound toggle allows users to switch between a linear response or a more nuanced, 'airy' mode for open, characterful recordings.

www.lewitt-audio.com

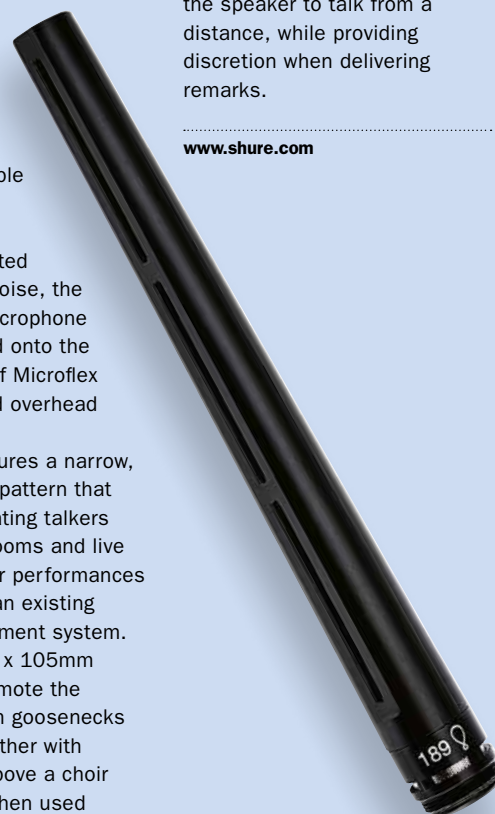
Mini Shotgun takes aim

DESIGNED TO deliver intelligible speech within noisy and complex environments, Shure has launched the R189 lobar microphone cartridge. Capable of preventing feedback while rejecting unwanted ambient room noise, the mini-shotgun microphone can be threaded onto the existing range of Microflex goosenecks and overhead microphones.

The R189 features a narrow, focused pickup pattern that is ideal for isolating talkers in conference rooms and live presentations or performances where there is an existing sound reinforcement system. The slim 10mm x 105mm dimensions promote the R189's use with goosenecks on a table, together with hanging mics above a choir or ensemble. When used

in podium and tabletop applications, the R189 allows the speaker to talk from a distance, while providing discretion when delivering remarks.

www.shure.com



Built-in compression

HYPEMIC IS Apogee's next-generation, studio-quality USB condenser microphone with a built-in analogue compressor. The compression feature reportedly makes pro recording fast and easy, reducing the need for

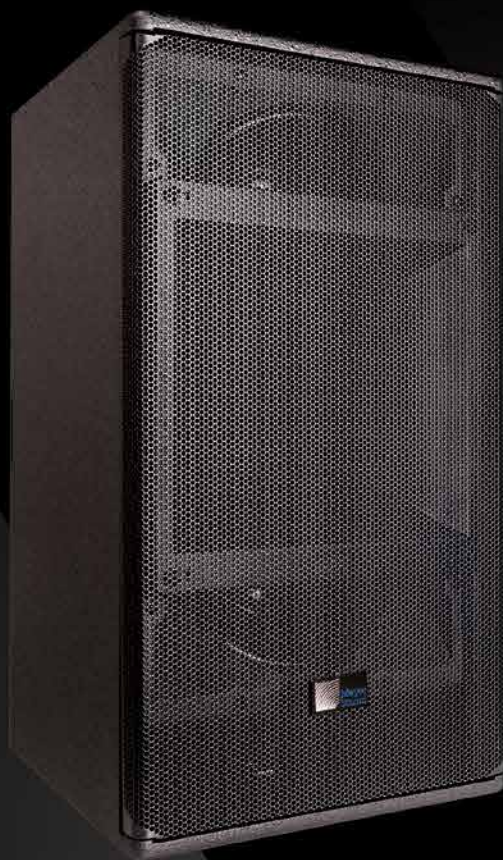
extensive processing and mixing after recording. Similar in output to the company's MiC+, HypeMiC users get accessory upgrades such as a premium desktop stand, custom pop filter and carrying case, as well as all the cables needed to connect HypeMiC to an iOS device, Mac or PC.

The three compression settings available in HypeMiC are said to give users a 'truly balanced and mixed' recording, reducing the need for extensive processing and mixing. Built for high SPL levels, HypeMiC reportedly provides greater clarity and detail when recording loud acoustic instruments from drums to horns to choirs. Ideal for live streaming, podcasts and broadcasts, HypeMiC balances audio dynamics for broadcast-ready recordings. Users can also send audio out of the

HypeMiC stereo output into a mixer, audio interface or standalone recorder. The compression settings include Shape It, for shaping vocals and instruments; Squeeze It, for podcasts, interviews and streaming; and Smash It, for voice recording.

www.apogeedigital.com





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MEYERSOUND.COM/PRAVAS



Studio-quality sound

AKG HAS extended its digital wireless systems with the four-channel DMS100 and eight-channel DMS300. Available in two configurations – a handheld microphone or an instrument- or headset-ready bodypack – the systems offer 24-bit/48kHz uncompressed audio coding, ultra-low latency and signal security provided by AES 256-bit encryption to protect the signal and keep wireless audio communications private.

The DMS300 features a high-resolution front panel LCD screen that reportedly allows for easy set up, monitoring and control. Up to four DMS100s and up to

eight DMS300s can be synced and used simultaneously. The systems operate in the 2.4GHz band, avoiding the interference found in traditional analogue wireless systems,

and have been developed for performing musicians, small- to medium-sized corporate or government presentations, houses of worship, fitness instructors or educators.

www.akg.com



DMS300

SSL evolves its Live range

SOLID STATE LOGIC has released its SSL Live L350 and L550 consoles. The L550 features 288 processing paths, 26 matrix outputs and 48 VCAs, assignable to any of the 36+2 faders on the control surface. The L350 consists of 216 processing paths, 36 matrix outputs and 36 VCAs in a compact 24+2 fader frame. Both consoles can be augmented with USB Remote Fader Tiles or connected to remotely from another console, a laptop running SOLSA remote control software or tablet running the TaCo control app.

The L350 and L550 replace the L300 and L500 Plus and are

showfile compatible with all other SSL Live consoles. Upgrade kits are also available to existing L300 and L500 Plus owners who wish to upgrade their consoles to the latest specification. A new V4.8 version of software will also be available to support all new hardware.

In other news, X-Light is a high channel count, ultra-low-latency interface, carrying 256x256 channels of 96kHz, 24-bit audio plus control data between SSL Live consoles and Dante devices onstage via a single cable.

X-Light has been designed to offer a Dante I/O solution that is



SSL Live L550

described as reliable and quick to deploy in the field, while maintaining many of the benefits of a scalable and flexible AoIP network. Meanwhile, the 1U X-Light Bridge interface has been designed to be deployed in stage I/O racks and

features a fully redundant pair of X-Light connections using Neutrik opticalCON Quad format connectors on the front panel. On the rear panel, there are two redundant pairs of Neutrik etherCON format Dante

connections for audio and control distribution.

SSL has also introduced the SB16.12 stagebox. Based on the larger SB32.24, the SB16.12 features 16 SuperAnalogue mic/line inputs with gain compensated digital split outputs, eight line outputs, four AES inputs with SRC and four AES outputs. It has dual Dante network interfaces, providing a redundant pair of ruggedised etherCON ports for the main I/O and a redundant pair of SFP ports for the compensated split outputs.

www.solidstatellogic.com

Avatus treads the boards

STAGE TEC'S Avatus IP-based mixing console has been repurposed for use in the theatre. The new version has detachable screens, allowing mixing engineers to see the stage over the top of the desk, depending on the layout of the room.

'In many theatres, due to structural conditions, control rooms are built such that the sound engineers cannot see over their mixing console to the stage,' the German manufacturer explained. 'Avatus offers a solution to this problem. The theatre version of Avatus is

designed so that the upper screens are removable. Since the IP console is connected via standard TCP/IP interfaces, each module has its own IP address. This enables the screens to be installed anywhere within the Nexus network.'

Avatus, originally released in 2017, was the world's first audio console without a centre section. It comprises just three modules. It is available in myriad sizes between 12 and 96 faders.

www.stagetec.com



DiGiCo's A3232 connects S-Series with 4REA4

DIGICO'S 4REA4 I/O can now be incorporated into the manufacturer's S-Series consoles with the release of the new A3232 DMI card. The A3232 ports are capable of up to 32 inputs and 32 outputs over a proprietary Ethernet connection and connect to the A168 stage and the A164 wall and floor units. These racks can also be cascaded on a single A3232 port or used as pairs of redundant devices. Two new ASTAR ports expand this further with each capable of up to 128 inputs and 128 outputs when connected to the ASTAR unit, which then splits the 128 I/O into four A3232 ports. This allows installers to have a single run back to the processing engine, but with distributed remote local I/O where it's needed. As part



of this upgrade, newly launched S21-Stage48 and S31-Stage48 systems are being offered with 48 mic inputs from stage via three 168 stage racks.

Additionally, DiGiCo's DMI-AMM card that enables automatic microphone mixing has been expanded onto DMI-enabled SD consoles. The card allows up to 64 channels of automatic mic

mixing on both SD7 Quantum and the SD12 consoles. There are two independent AMMs implemented by the DMI-AMM – AMM-A and AMM-B – with channels assigned to either A or B or neither. This means that two separate events can run simultaneously on the same console without interference.

www.digico.biz



Portable Dante solutions

ALLEN & HEATH has released a range of Dante-enabled products, including portable and wall-mount I/O solutions for installation, and two Dante option cards, all of which are compatible with AES67 and Dante Domain Manager.

The DT168 provides 16 mic preamps and eight line outputs in a convenient stagebox form factor, suitable for portable applications due to its rubber bumpers and handle. The DT168 can be deployed onstage or used as a drop-in expander.

The DT164-W provides 16 mic preamps and four line outputs in a wall-mount design for permanent installation. The reversible mounting frame allows for in-wall or on-wall mounting. The unit also fits in a standard 12-inch x 12-inch NEMA box or equivalent, or can be mounted in a floor pocket for stage

use. The IEC mains power inlet can be replaced with a gland module and screw terminals for fixed installation, and a DC 12V backup supply is also provided.

Both the DT168 and DT164-W come with Allen & Heath's preamps, with 96kHz converters for improved sound quality over Dante, plus primary and secondary ports for daisy-chain or redundancy through secure EtherCon connectors. Both products are also compatible with the company's DM and CDM MixRack/MainFrames and with the SQ series mixers.

The two Dante cards for its dLive system are aimed at recording, virtual soundcheck and digital split applications. The cards offer 64x64 and 128x128 channels of 96kHz Dante audio (switchable to 48kHz).

www.allen-heath.com

Multichannel Dante audio interfaces

THE DIO AUDIOPHILE Dante interfaces from Sonifex are plug-and-play audio interfaces that provide a convenient method of connecting analogue and digital audio equipment to the Dante AoIP audio network. Using AD and DA circuitry, it offers >120dB of dynamic range. Using Dante Controller for configuration and powered by PoE, the rugged aluminium boxes have side slots for screw mounting and use Neutrik EtherCon connectors and Neutrik lockable audio connectors for improved connectivity.



DIO01

A series of multichannel Dante audio interfaces, which are compliant with Dante Domain Manager, have also been launched by Sonifex. The interfaces consist

of the AVN-AI04 and AVN-AI08, which provide four and eight balanced analogue inputs and outputs to and from the Dante network respectively. The rack-mount solutions have been designed to be more simply configured and operated by AV professionals and systems integrators. Packaged in a 1U form factor, they use Neutrik XLR connectors, are compliant with Dante AES67 and use PoE for power.

www.sonifex.com

DIO01 Dante to Analogue XLR Stereo Output



DIO02 Analogue XLR Stereo Input to Dante



DIO03 Dante to Headphone Output With Volume Control



DIO04 Dante to Analogue Phono Stereo Input & Output



DIO05 Dante to Analogue Terminal Block Stereo Input & Output



DIO06 Dante to AES3 XLR Stereo Input & Output



DIO07 Dante to AES3 BNC Stereo Input & Output



DIO08 Dante to AES3 Terminal Block Stereo Input & Output



DIO09 Microphone Input to Dante



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Studio workflow flexibility

AIMED AT commercial production facilities where space is limited, API has released an update to its console – the Box. The latest version includes more options and flexibility for the modern studio workflow, including eight input channels and eight 500 Series slots, and features LED metering for each of its 24 summing channels.

The new version of the Box provides the same rear-panel connections, full centre section and monitoring as its predecessor, as well as the OdB bypass switch on each summing channel, and uses the same circuitry and components as other API consoles, including the Vision and Legacy AXS.



The Box

According to API, the Box handles all the functions needed for production not provided by most DAWs, including mic preamps, input signal processing, high-quality mix bus, cue sends with talkback and monitor control.

www.apiaudio.com



Atlas USB recording interface

Dante added to Atlas and Titan

PRISM SOUND has announced the forthcoming availability of Dante audio networking on its Atlas and Titan multitrack audio interfaces. The units feature a Dante MDIO module and are controlled using a software app that is available for both Mac and Windows platforms. This allows control of the unit from a computer connected to the Dante network or via the existing USB connection. The app can also be used with older units already in use.

Users not requiring the Dante interface will be able to download the latest firmware and updated software control app free of charge from the Prism Sound website. Those wanting to upgrade to Dante can purchase the MDIO-Dante card and then also upgrade the Atlas or Titan firmware and software control app, which will be available from the Prism Sound website at no additional cost.

www.prismsound.com

Mixing with more output

A MULTICHANNEL mic/line mixer has been launched by ARX Systems that is designed to cope with a variety of audio sources found on today's

level controls. Each microphone channel on the ZoneMix also comes with a balanced low noise mic input plus individual gain and level controls.

Zone 1 and 2 Stereo Master output XLR connectors, which can be switched to mono if required by using rear-panel switches. For improved ease-



ZoneMix front and rear panels



multimedia devices. Designed in a compact 1U unit and described by the manufacturer as both intuitive and user-friendly, the ZoneMix includes a wireless audio receiver, a USB connector and mini-jack inputs – each with their own individual

The mic input can be switched to be a line input as required and the stereo line input 3/4 has a rear-panel input trim control, as well as front-panel output level controls. There are also Zone 1 and 2 Stereo Master level controls and

of-use, the front panel has LED indicators for wireless audio, USB active and AC power and LED output level meters that show –30dB to 0dB and clip on each set of zone outputs.

www.arx.com.au

Portable recording

TASCAM HAS unveiled the DR-05X to offer portable, high-quality stereo recording in MP3 or WAV format – including 96kHz/24-bit high-resolution audio – using microSD, microSDHC or microSDXC media. A pair of omnidirectional mics handle up to 125dB SPL. Features include low-cut filtering, variable speed audition and chromatic tuner, and there are three audio level modes (limiter, peak reduction and auto level) to help prevent accidental distortion while recording.

The DR-07X is a handheld digital recorder and USB audio interface building on the manufacturer's DR-07. Ideal for music recording and sound design, the DR-07X incorporates a pair of cardioid condenser microphones to handle high SPLs and can be set up in AB or XY orientation for a wide stereo field or extra-clear reproduction with reduced phase displacement between both channels. The DR-07X can also be used as a USB audio interface with two inputs and outputs, making it suitable for



DR-05X

voiceover work, live streaming, podcasting and songwriting.

The DR-40X is a four-track audio recorder for music, podcasting, cinema and any other application requiring high-quality audio. Building on the company's DR-40, this recorder adds several new functions to the already comprehensive feature set. Users can also use their own microphones or line-level source through dual Neutrik XLR/

TRS combo jacks that support both mic level and +4dBu line level from mixers or the FOH console. The microphone preamps include 48V phantom power and plenty of gain to capture everything from small whispers to loud live sounds.

TASCAM has also released its MM-4D/In and ML-4D/Out. The MM-4D/In provides four mic/line input channels with TASCAM mic preamps that offer remote gain control from the manufacturer's free control software or from external controllers. Each channel has individually switched, +48V phantom power. Built-in input processing includes a compressor, four-band parametric EQ, level control, polarity reverse and mute. The MM-4D/In's built-in eight-in, four-out matrix mixer combines the four analogue inputs with four Dante inputs (up to 48kHz) and feeds four Dante outputs.

The ML-4D/Out accepts four channels of up to 96kHz Dante input and provides four line-level outputs, available on either XLR or Euroblock connectors. The onboard 4x4 matrix mixer includes



MM-4D/In

level control, ducking, ambient noise compensation and muting. Each output has a 10-band EQ, delay, level control, limiter, polarity reverse and muting.

Also new are the MM-2D and AE-4D. The MM-2D features two channels of mic/line input with TASCAM preamps, including +48V phantom power and two channels of line output, available on either XLR or Euroblock connectors. An onboard six-in, four-out matrix mixer with the same mixer processing as the MM-4D/In and ML-4D/Out enables combining the two channels of analogue input

with four channels of Dante input and routing to two analogue and four Dante output channels. Input processing is the same as the MM-4D/In and output processing is the same as the ML-4D/Out.

The AE-4D provides four channels of AES/EBU input with SRC and four channels of AES/EBU output on XLR connectors. It converts directly to and from four channels of Dante audio, without needing an internal mixer. The AE-4D offers level control and muting on both inputs and outputs.

www.tascam.com

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d&b is Milan-ready

D&B AUDIOTECHNIK has released its first product for connecting its loudspeaker systems to the Milan protocol. The DS20 audio network

the R1 Remote control software via the OCA (Open Control Architecture) protocol. d&b has also introduced the R90 touchscreen remote control. The



DS20

bridge interfaces between Milan networks and AES3 digital audio signals and provides distribution of Ethernet control data. Metadata including Milan channel labels and cabling information is sent via the AES3 channel stream to the four-channel d&b amplifiers.

Positioned in front of the amplifiers within the signal chain, the 1U device is suited to both mobile and installation environments and provides four digital AES3 input channels for applications such as a break-in from an FOH console. It incorporates a fully AVB-enabled, integrated, five-port switch, offering a primary and redundant network. This is said to provide extended connectivity for a laptop to control the d&b amplifiers using

7-inch panel simplifies the general operation of a d&b system and grants users one-touch control of predefined functions such as power, mute, level, grouping and recall of up to nine amp presets. All control functions in the R90 work independently of the d&b R1 Remote control software, eliminating the possibility of accidentally altering any of the carefully balanced system settings. Running AES70/OCA, the R90 can be integrated into any d&b system (using up to 15 amplifiers) without the need for additional programming. It incorporates a 1GHz ARM Cortex-A8 processor and provides a steel housing with

aluminium front. All connectors are accessible from the lower rear panel.

In other news, d&b has made available Revit files that allow consultants, architects and systems integrators to include d&b loudspeakers in a Revit-based BIM process at any stage of a project. Revit files provide photorealistic, detailed, 3D data for each loudspeaker, including texture, non-branded renderings to support a neutral tender process and the option to visualise Special colour versions. Where applicable, loudspeakers can be pitched, rotated and panned according to the specified installation.

www.dbaudio.com



SurgeX adds two new Defenders

SURGEX HAS enlarged its Defender series with the addition of the SX-DS-1011i (10 amp/230V plug configuration with 11 IEC outlets) and the SX-DS-1611i (16 amp/230V plug configuration with 11 IEC outlets). Incorporating Multi-Stage surge suppression

installations globally, SurgeX UPSs are ready to carry over power immediately until an alternative power source is engaged or safe shutdown is completed. Varying in size according to the size of installation, the three models include 2kVa, 4kVa and 6kVa



technology, the Defender Series protects AV equipment from electrical transients and common mode electrical noise. Designed for lower budget applications, the SX-DS-1011i and SX-DS-1611i provide comprehensive power protection and conditioning in a 1U, shallow, rack-mountable form factor.

Four new uninterruptible power supply (UPS) systems – including three rack-mounted and one large-format model – are now available for comprehensive protection and carry-over power during blackouts. With three new models to support

variants. Backup power provided by generators can be damaging and is also noisy or dirty. SurgeX reportedly safeguards against this form of damage with online double conversion technology ensuring connected systems receive constant, stable power in fluctuating power environments. The large-format 50Hz/15kVa model also features online double conversion technology and an isolation transformer to ensure connected equipment continuously receives clean power.

www.surgex.com



Genelec thinks Smart

GENELEC RECENTLY unveiled its new open IP networking technology platform, designed primarily for the installation market. The platform aims to deliver power, audio and scalable loudspeaker system configuration, supervision and calibration features over a single standard Cat-5 cable.

The Smart IP platform will be rolled out across Genelec's range of installed audio loudspeakers. Based on IP and PoE, the platform includes a proprietary internal power supply that reportedly delivers 'much higher' SPLs than is possible via conventional PoE. In fact, Genelec states that the solution is powerful enough to run small- and medium-sized systems.

Genelec has built the Smart IP platform to be compatible with widely used audio-over-IP networking protocols, allowing for flexibility and scalability. A standard analogue input has also been included for added flexibility. In addition, the platform makes use of Genelec's Loudspeaker Manager software, tailored to meet the specific needs of the installed audio market by offering a range of tools developed to solve problems such as device discovery, automatic room equalisation and calibration, system organisation and status monitoring.

www.genelec.com



Composer extends to 7.1

WITH THE advent of Composer 7.1, users of Symetrix's Radius NX, Edge, Radius, Prism and Solus NX DSP platforms now benefit from a host of added features. The end-to-end programming software for Windows emboldens its feature set with added support for the Visionary Solutions Packet AV Duet video encoder and decoder in addition to the Symetrix T-5 Touchscreen controllers and PD-1 Telco Dialler.

All programming and routing of Visionary Solutions Packet AV Duet video encoders and decoders is now directly integrated within Composer 7.1. Additionally, Composer indirectly

supports select third-party, non-Dante encoders and decoders that use the same control protocol as the Duets. Using Symetrix's SymVue interface, the T-5 Touchscreen can control every function of an installed AV system. System integrators can manage any T-5 Touchscreen from Composer, as each device has its own IP address on the network.

By supporting the PD-1 Telco Dialler, meeting leaders can now dial remote attendees into conference calls by using a traditional telephone keypad rather than a touchscreen.

Other workflow enhancements of

Composer 7.1 include time/date and special character export in the SymVue for Web interface. Designed to simplify the optimisation of installed systems for different remote-control scenarios, new sizing handles (horizontal, vertical and a corner handle for sizing the entire window at once) allow resizing of objects in control screens.

As in previous versions, SIs can diagnose any device in a Composer-designed system by simply launching a web browser and entering the device's IP address.

www.symetrix.co

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Max SPL 135 dB • On-board double rotary EQ
Control System

VIO S118 NEW

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Neodymium • Frequency Response (-10 dB) 33 Hz •
DIGIPRO® G4 Class D 1600 W/RMS Amplifier with PFC •
Max SPL 139 dB • Modular slot for expansion cards •
System auto-test for quick diagnostics

Williams AV adds Bluetooth connectivity

THE WILLIAMS AV BluePOD is designed to simplify the process of making conference calls via computers, laptops or mobile phones. The system allows users to initiate a conference call by tapping the Bluetooth connect button on their device, with no special software needed. Adjusting the volume, muting and connecting is all done on the standard volume control on the user's device, while using the system set up screens on the embedded web server provides complete set up control and the ability to adjust input gain on each audio source.

BluePOD gets its name from the small pod-shaped enclosure housing a patent-pending B-WAP (Bluetooth wireless access point) transceiver. The B-WAP is equipped with a Bluetooth 4.2 aptX HD long-range transceiver and provides up to 35m of Bluetooth broadcast coverage

in a typical office or educational environment.

The system also allows users to select the speakers and microphones they want to use. It



features an integrated mixer with DSP functions, including Acoustic Echo Cancellation. The mixer includes four inputs (two mic/two line), two line outputs and two 25W amplifiers.

The system will ship in three configurations. BluePOD Solo

gives integrators the ability to add the B-WAP into any existing audio system for expanded Bluetooth functionality. BluePOD Solo D adds a Dante network port to this

system. WaveCAST is built on a hardware-based DSP audio architecture, allowing system optimisation to achieve the highest-quality audio experience

can also be established where tweaking is necessary for specific performance applications.

Professional audio inputs on the WaveCAST include ¼-inch XLR connectors, phantom power and a line level output jack. In addition to multi-stage gain control inputs, the DSP features include AGC, limiters, high- and low-pass filters and an adjustable range compressor control. The 16-bit DAC provides a 48kHz sample.

The new WaveCAST app is available in iOS or Android and allows users to perform multichannel discovery, allowing the app to automatically discover all WaveCAST units in the room and then select the desired channel. WaveCAST supports both unicast and multicast network configurations and can support up to 1,500 clients, depending on proper network support.

www.williamsound.com

Exterity expands partnership

EXTERITY HAS strengthened its partnership with Samsung with the release of its latest TVgateway, which integrates with Samsung's Lynk Reach hospitality middleware. The Reach platform now ingests

Electronic Programme Guide (EPG) data directly from Exterity TVgateways, enhancing the information available to hotel guests through their Samsung in-room SmartTV. Exterity TVgateways are fully compatible



with SmartTV clients and deliver live channels including 4K and encrypted content protected channels.

With this new integration, the gateways can provide EPG information into Samsung Reach in the same way they contribute to an Exterity ArtioGuest system.

www.exterity.com
www.samsung.com

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The workplace technology manufacturer has also expanded its DM Lite endpoint product line with the HD-RX-510-4K-E receiver to provide auto-switching, amplified audio outputs for speakers and network connectivity for management and set up. Paired with an MPC3 media presentation controller, the HD-RX-510-4K-E is said to provide intuitive control via engraveable buttons and dials that can be configured through the .AV Framework configuration portal. The system can be provisioned, monitored and managed using any web browser via the Crestron XiO Cloud IoT-based provisioning system.



Also new is the DM NVX family. The new DM-NVX-E30(C) and DM-NVX-D30(C) are encode- or decode-only units that support HDMI connectivity and analogue audio, delivering additional flexibility for basic endpoints when only video and audio are needed. The DM-NVX-352(C) provides the same feature set as the DM-NVX-350(C) plus support for AES67 and Dante audio networking.

www.creston.com





Compact power

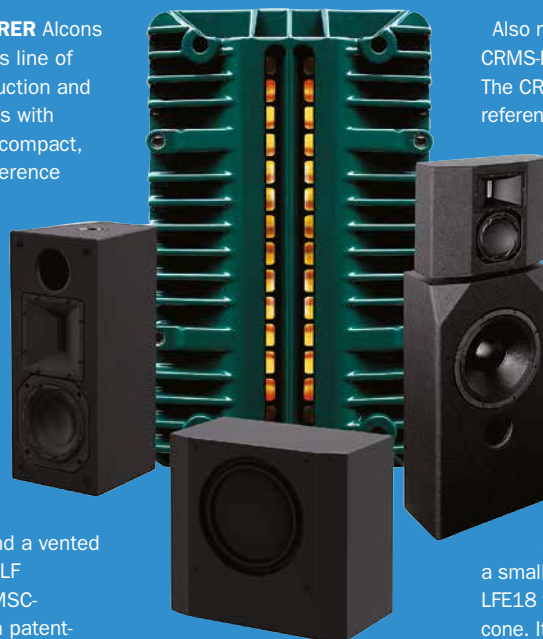
JBL'S ONE Series 104 compact studio monitors are intended to occupy a small spot on the desks of content creators, while offering performance and detail that belies their diminutive stature. The manufacturer has reportedly achieved this through the use of newly designed, 4.5-inch coaxial drivers, developed using the same research that led to the waveguide found in M2, 7-Series and 3-Series monitors, and that provides a deep bass down to 60Hz without the need for a subwoofer.

The One Series 104 cabinets are powered by a Class-D 60W amplifier said to be capable of 104dB peak SPL without distortion. A front-panel volume control is present for easy level adjustment together with a headphone port, while dual ¼-inch balanced and single ½-inch unbalanced TRS inputs on the rear accommodate a range of inputs. An optional, protective carrying case will also be available, for production on the go.

www.jblpro.com

Alcons tackles spill and dispersion

DUTCH MANUFACTURER Alcons Audio has extended its line of products for live production and immersive applications with its CRMSC-SRHV120 compact, horizontal/vertical reference surround system for front width, side and rear surrounds said to provide improved dispersion from a ribbon driver. It is a two-way, passive-filtered, full-range loudspeaker with a high dynamic range. Using the Alcons RBN202 pro-ribbon driver for HF and a vented 6.5-inch mid-bass for LF reproduction, the CRMSC-SRHV120 is based on patent-pending technology from the company's CRMSC-SRHV90 and VR5 mini versatile monitor. It has a 500W peak power input, enabling a 1:16 dynamic range with up to 90% less distortion from 1kHz to beyond 20kHz. The



CRMSC-SRHV120

patented 120° and patent-pending 90° dispersions are said to offer a wide and consistent coverage to a large number of seats in the auditorium.

Also new from Alcons are the CRMS-LFE18 and CRMS-LFE15. The CRMS-LFE18 is a large-format reference subwoofer system with an 18-inch woofer and dual 3-inch voice coils said to result in 10dB more excursion than a traditional 18-inch woofer. The direct-radiating transducer mounted in the sealed cabinet reportedly enables an in-room response below 10Hz. The CRMS-LFE15 is a low-frequency extension for residential and studio markets and a smaller version of the CRMS-LFE18 with a 15-inch inverted cone. It has been designed to match the CRMSC screen channel in smaller applications. An SL version, with a sealed shallow cabinet at 11 inches deep, is also in development.

www.alconsaudio.com

Kramer introduces Kronos

KRAMER KRONOS is a secure, enterprise cloud-based room booking and scheduling platform. It is designed to streamline and automate room booking management. Kronos integrates with Kramer Control, meaning administrators can set a room's availability as a trigger for controlling room elements automatically. For security, it employs 802.1x and Transport Layer Security (TLS) encryption for all communications between the scheduling touchpanels and the

Kramer Kronos cloud-based server. The system includes a library of UI templates for customisation and works with a variety of scheduling platforms, such as Microsoft Exchange, Office 365 and G Suite. It is also compatible with iOS and Android tablets. The Kronos schedule can also be viewed on a room display using a VIA device, when no presentation is taking place.

Kramer is also claiming an 'industry first' with the launch of the AFM-20DSP, a 20-port audio

matrix with DSP and interchangeable inputs and outputs. The AFM-20DSP also includes eight AEC channels, auto feedback suppression, Dante support, built-in high-Z and low-Z 120W power amplification and full DSP functionality from Xilica. Meeting video requirements, the AFM-20DSP is capable of HDMI embedding and de-embedding at 4K60 4:2:0. The system also boasts both fixed and open architecture, allowing AV professionals to use predefined sound configurations or to configure a system from scratch.



Also new from Kramer is the Aspen-32UFX 32-port matrix switcher for SDI signals of up to 12G SDI, and the VS-34FD 34-port, 8K-ready, multi-format modular

matrix switcher for AV signals – another industry first, according to the manufacturer.

www.kramerav.com

More power for SoundGrid

SEVERAL NEW SoundGrid products have been introduced from Waves Audio, including the SoundGrid Server One-C, SoundGrid Extreme Server-C and the SoundGrid Mobile Server. The Extreme Server-C and Server One-C both handle real-time processing for SoundGrid-compatible plug-ins, and are able to process hundreds of plug-ins.

Both servers are stated to provide ultra-low latency: as low as 0.8ms at 44.1kHz, 48kHz, 88.2kHz and 96kHz. With a robust 2U chassis, users can rackmount one server using rack ears, or double up for redundancy and mount two units side-by-side using a rack shelf. The SoundGrid Server One-C has an Intel Skylake i5 processor, while the



SoundGrid Server One-C

SoundGrid Extreme Server-C packs a more powerful Intel Skylake i7.

The smaller SoundGrid Mobile Server has an Intel Core i5 processor and 4GB of RAM, making it suitable to power plug-ins in small live shows as well as in the studio, while latency is the same 0.8ms at 44.1–96kHz. Paired

with a SoundGrid audio interface, the Mobile server allows users to record and monitor through plug-ins in real-time. With a non-SoundGrid interface, it takes the plug-in processing load off the computer during mixing and editing sessions.

Away from hardware, two new processing plug-ins have been

announced. Said to be the first plug-in of its kind, CLA MixHub captures the console workflow and analogue sound of Chris Lord-Alge's mixes. Users can mix

up to 64 tracks from the same plug-in window, using channel strips modelled from CLA's personal console.

Also new is Sibilance, a transparent vocal de-esser powered by the manufacturer's Organic ReSynthesis technology. Waves says that unlike most de-essers, which act like narrow-band compressors, the Waves Sibilance plug-in uses Organic ReSynthesis spectral filters to identify undesirable bursts of sibilant energy, then separates the nuances of sibilance from the vocal signal, leaving the rest of the signal untouched.



Sibilance

www.waves.com

ESD Cube

There are not six sides to every story

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www.kv2audio.com/cube



Keyboard control

RADIAL ENGINEERING has developed its KL-8 keyboard mixing station with pro keyboard players in mind. Up to four keyboards can be connected in mono or stereo, each with their own level controls and LED indicators, along with the ability to bring them in and out of the signal path to keep noisy keyboards muted until they are

mono for use with systems that have limited channel availability. Dual ¼-inch headphone outputs are also included for local monitoring and testing. A cue system allows any keyboard input to be muted from the overall mix and fed directly to the headphones to silently check patch settings without feeding signal to the audience.



needed. A stereo aux send/receive channel is available to feed rackmount reverbs and delays or effects pedals. It can also

be used as an additional input for a fifth keyboard or reconfigured to allow an alternative audio source such as a click track to feed the headphones and stage monitors.

Both the main outputs and monitor outputs are provided over transformer-isolated balanced XLRs, with ground lift switches to eliminate hum and buzz from ground loops. The main outputs are also transformer-isolated to further reduce noise. Both sets of outputs can be summed to

The KL-8 is also a digital interface, with MIDI and USB connections. Redundant USB connections mean that users can have a backup laptop plugged in and ready to go should the primary source fail; this is especially helpful for keyboard players who are also controlling playback for backing tracks during the performance. An optional JR1-L remote footswitch can be employed to switch between the USB inputs. Stereo insert points allow a single volume pedal to control all keyboard outputs, and a link feature can be used to connect multiple units together and expand the KL-8 inputs.

www.radialeng.com

Audio Everywhere starts to listen



The Listen Everywhere app

LISTEN TECHNOLOGIES has replaced the Audio Everywhere solution, which allows plug-and-play streaming of wireless audio over existing Wi-Fi networks for assistive listening, with the new Listen Everywhere system. Listen Technologies acquired the Audio Everywhere brand and products from ExXothermic in December 2017 and it initially replaced Listen Technologies' own ListenWiFi solution. Listen Everywhere is designed as a low-latency solution for use in environments where visitors may have trouble hearing a source over the ambient noise or where the distance between the guest and the source is too great.

The new Listen Everywhere includes upgraded hardware, a streamlined finish and a new server



ListenTalk

with a variety of pro audio outputs. The system can be added to a venue's existing wireless network and allows guests to stream audio from sources such as televisions or tablets via a free app. The app can be customised to incorporate a facility's branding when users log in.

As well as listening, Listen Technologies is getting people talking with two new additions to its ListenTalk range: the LKR-11 and LKR-12 receivers. These listen-only receivers are designed for situations where a two-way conversation is not essential and one-way speech will suffice, such as in assistive listening applications, educational lectures and tourist attractions.

www.listentech.com

New Generation Monitor Controller for Immersive Audio



AX32 with MOM tactile control, SPQ speaker tuning option,, DADman V 5.3, I/O for Dante™, AES3, MADI, and Pristine analogue AD/DA.

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AD DA 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16/32

Setting Up/Down Page Sample Rate > 192 SRate Adapt Intern Sync Source Intern SyncOK AX32



www.digitalaudio.dk

DAD
DIGITAL AUDIO DENMARK
By NTP Technology

Burl's big announcement

BURL AUDIO has added a raft of new products to its catalogue. First is the B4 four-channel mic/line input daughter card for the B80 and B16 Motherships. The B4 incorporates the new BX6 input transformer designed for true mic/line input impedance. It maintains a Class-A analogue circuit followed by the same ADC the manufacturer uses in the BAD8. Using a single B80 chassis, 40 input channels of audiophile mic/line inputs can be realised.

The B4 also incorporates SoundGrid networking and processing, Dante connectivity and digital control options.



Next is the BDA4M, a mastering grade DAC with stepped attenuators and switchable output transformers. Specifically designed for mixing and mastering, the BDA4M uses the latest Burl NextGen analogue design for 'superior fidelity and clarity'. The BDA4 transformer-coupled, four-channel, digital-to-analogue converter daughter card for the B80 and B16 Motherships uses the newly developed BOPA14, also with Burl's NextGen analogue design. The BOPA14 is a discreet, Class-A op-amp with a minimal number of transistors alongside a tighter bass and higher definition.

Finally, the BX5 is an output transformer first used in the B32 Vancouver Mix Bus.

www.burlaudio.com

Wisycom widens the gap

DESIGNED FOR touring companies, broadcast studios and performance venues challenged by a shrinking RF spectrum, Wisycom has released the MRK980 Ultra-Wideband True Diversity Receiver. The 1U two-channel receiver comes with a high-contrast OLED display and provides 1,090MHz of switching bandwidth covering the VHF, UHF and 900MHz bands.

Operating with Wisycom's Linear transmit technology, the system provides up



to 30 channels within one 6MHz TV channel. Free of intermodulation distortion that typifies conventional systems that are reliant upon external signal processing equipment, no calculations are required using the ultrafast spectrum scan.

The receiver's DSP-FM technology also provides very

narrowband channel filters that yield 50% more band efficiency and 200–250KHz channel spacing. By providing an additional 3dB of sensitivity and noise immunity, this equates to doubling the power while increasing the range. The MRK980 also includes Dante compatibility, analogue and digital outputs and Wisycom's

optional push-to-talk (PTT) function for offline communication to monitor engineers, performers and presenters on the network. The MRK980 can be remotely controlled through an IP network using the Wisycom Manager 2.0 software interface.

www.wisycom.com

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www.riedel.net

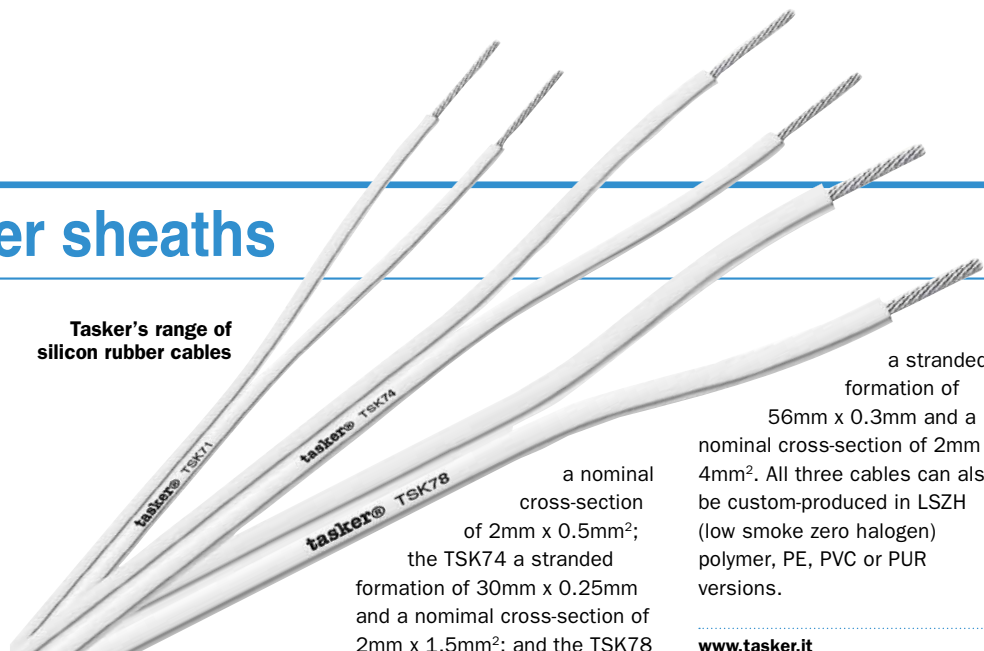
Tasker adds silicon rubber sheaths

TASKER HAS expanded its range of divisible flat cables by introducing a selection of new products with different sections, starting from 0.35mm² to 4mm², all with soft and flexible silicon rubber sheaths. The sheaths are flame-retardant, without halogen and are resistant to oil, water, UV rays, and chemical and environmental agents, making them ideal for outdoor

applications. A temperature range of -60°C to +180°C means that the cables can also be deployed in extreme environments, as well as medical settings, wellness centres, water parks and spas.

Among the products incorporating the silicon rubber sheaths are the TSK71, TSK74 and TSK78. Available in white, the TSK71 has a stranded formation of 16mm x 0.2mm and

Tasker's range of silicon rubber cables



a nominal cross-section of 2mm x 0.5mm²; the TSK74 a stranded formation of 30mm x 0.25mm and a nominal cross-section of 2mm x 1.5mm²; and the TSK78 a stranded formation of 56mm x 0.3mm and a nominal cross-section of 2mm x 4mm². All three cables can also be custom-produced in LSZH (low smoke zero halogen) polymer, PE, PVC or PUR versions.

www.tasker.it

Native processing

ECLER HAS unveiled its MIMO4040DN, a digital matrix with native processing of 40 inputs and 40 outputs (eight analogue inputs, eight analogue outputs, 32 Dante inputs and 32 Dante outputs). Also included are eight GPI ports, eight

GPO ports, two Dante interfaces (primary and secondary) and one Ethernet programming and control interface (EclerNet, UCP, TP-Net and WPNET series control panels). Incorporating audio-over-IP technology, the matrix allows

signal transmission using a local Ethernet network and features accessories from the manufacturer's WPNET Series, connected by an Ethernet interface and compatible with a PoE DC supply. The MIMO4040DN

is also capable of executing EclerNet projects embedded into its processor and electronics engine, acting as a UCP (User Control Panels) server within an EclerNet devices network.

The matrix has been designed for centralised, distributed or hybrid fixed installations over long distances and for integrated digital audio and control solutions using Ethernet networks. BGM, paging and PA management are

also suitable applications. The unit measures 482.6mm x 44mm x 266.5mm and weighs 3.25kg.

The manufacturer has also updated its EclerNet Manager to v5.00r5 to include support for the MIMO4040DN matrix, the WPNET4KV, WPNET8K and WPNETEX digital remote wall panels and the eMPAGE paging console.

www.ecler.com



Ui24R 3.0 update

SOUNDCRAFT HAS announced a free update to its Ui24R surfaceless mixer and multitrack digital recorder. New features include Cascade, which allows users to connect two Ui24Rs via Ethernet to double their mixing

doubling mic inputs, by adding a second Ui24R as a submixer, routed into the main Ui24R; and using two Ui24R mixers to create two fully independent mixes, each with dedicated EQ/gate/compression, for example

changes to routing or processor types to enable seamless operation. The UDP Lighting Control adds simple buttons to send industry-standard UDP commands over Ethernet to external gear, such as lighting software or hardware lighting controllers. The embedded Lexicon processing in the Ui24R is now enhanced with Reverb Pre-Delay, allowing users to easily set the time before first-surface reflections and more quickly simulate desired acoustic environments.

The Big Desktop Info view provides a birds-eye view of the entire Ui24R mix environment, represented as a single large console surface. Users can see graphics of their gate, compressor, EQ curve, FX and aux sends, and jump between controls for editing with simple double-clicks. This feature is designed for use on 1080p resolution screens.

Users now have more options for touchscreen control of the Ui24R with more than 25 leading touchscreens, which directly connect to the Ui24R via HDMI and USB thanks to expanded touchscreen support.

www.soundcraft.com



The Ui24R stacked with tablet

capability, enabling a new 32x32 bidirectional audio bus between consoles. Users can switch between Host and Remote units with a single click on Ui24R's HTML5 screen user interface. Common applications include

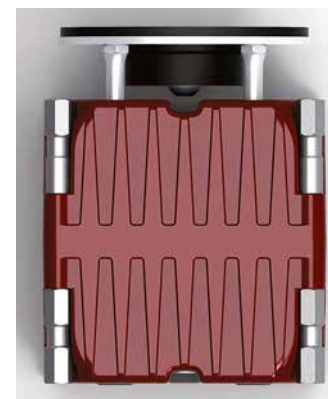
when mixing FOH and monitors, or creating independent FOH and streaming/live recording mixes.

The Cue Recall feature enables the saving and fast recall of mix settings. While recalling cues, the Ui24R can block any

Powersoft shakes the ground

DEVELOPED FOR use in audio applications and, more excitingly says the manufacturer, as a linear motor/shaker, Powersoft's Mover is a small but powerful linear transducer that can be adapted to various locations, such as 4D cinemas, theme parks or venues with vibrating acoustic floors. It lets audiences feel the sound through haptic perception by vibrating the surrounding environment, which the human body picks up and, through bone conduction, translates the vibrations into perceivable frequencies.

Mover is available in two versions: Direct Drive and Inertial Drive. With Direct Drive, the transducer is anchored to an immovable surface and the moving magnet is directly connected to a movable surface, such as a floating floor or chair. Direct Drive is also able to create an offset of ±15mm and therefore the surface will not only shake but also move, giving the audience the sensation of falling off or jumping over an object. The Inertial Drive version can be mounted directly to a surface and will excite the surface and extend the low-frequency experience. Mover is also available in low-impedance and 100V versions.



Mover is based on Powersoft's patented moving magnet linear motor technology that was introduced in 2013. The technology can also be found in the M-Force, which has found its way into earthquake simulators as well as subwoofers. Powersoft has now been able to pack the technology into Mover for applications where a shorter travel and less force are required. It can be used to move floors or seats, both to track video content as well as transfer audible frequencies. A specific subharmonic generator plug-in has been introduced to transpose the pitch of the frequencies down in order to reproduce ultra-low-frequency extension all the way down to 5Hz.

www.powersoft-audio.com



Electro-Voice

Introducing two new members of the ZLX series: ZLX-12BT & ZLX-15BT



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For more information, contact us at +65 6571 2808, apr.buildingtechnologies@bosch.com



ZLX-12BT & ZLX-15BT

Intelligibility for airports

WITH THE aim of improving PA systems at crowded airports, TOA has come up with an automated announcement system with improved voice clarity using its EN54-certified VX-3000 in combination with AviaVox's intelligent announcement systems.

AviaVox is able to generate 'more natural and human announcements' in a multitude of languages and is connected to the airport's operational database to receive constant flight status updates. In accordance with the individual airport's policy, these updates trigger automatically generated announcements that are then distributed by the VX-3000, while addressing specific zones and prioritising announcements.

The scalable, IP-based system also provides up to 320kW rated output power, making it applicable for small-to-large airports with up to 2,560 zones and 1,280 remote microphones. Meanwhile, the addition of TOA's new VX-3308WM – an all-in-one, compact voice alarm wall-mount system that also offers PA functionality – allows its use in smaller and more remote locations. The coupling of the voice alarm and PA systems means only one system is required instead of two, to distribute the alarm. Emergency messages can be addressed to selected areas while other zones stay unaffected and normal PA continues. The VX-3308WM can be combined with the modular VX-3000 cabinet rack for installation in high-rise buildings.

In other news, TOA has also devised a range of conference and wireless systems. The D5000 provides higher speech intelligibility, while integrating feedback



VX-3000WM

suppressor (FBS), transmission encryption and an 'ultra-light' belt-pack.

TOA has also announced that the latest SIP technology now allows its N-8000 intercom system to be integrated into existing communication systems via various SIP servers. The N-SP80 SIP intercom station, meanwhile, is now compatible with the G.722 audio codec. The device features easy unlocking to give simple access to controls and is ideal for building entrances, car park gates or other points of entry. Finally, the MA-725F digital matrix mixer is an all-in-one solution for multichannel or multi-zone applications combining a 6x4 audio matrix, DSP and four-channel Class-D amplifier into one chassis. It is equipped with four independent line inputs, two mic/line priority inputs and offers individually selectable background music for different zones as well as announcements.

www.toa.jp

Enhancing meeting space control

AMX HAS collaborated with Zoom Video Communications to create more powerful collaboration centres, with two solutions that integrate the AMX Acendo Core Collaboration System and the Zoom Meetings service, as well as AMX Modero G5 control panels and the Zoom Rooms Controller app to make meetings more productive and efficient.

The AMX Acendo Core Collaboration System can natively run the cloud-based Zoom Meetings app to launch one-touch Zoom Meetings and offers streamlined video communications and messaging, including the ability to record meetings locally or to the cloud. It

also features wireless document sharing, web browsing and room scheduling.

In addition, the AMX and Zoom collaboration works alongside the app to offer other onscreen

functions such as powering on/off lights and displays, opening and closing shades, and controlling the environment.

www.amx.com



Capture events in 3D

A 3D-BASED, fully automated tracking system for event and lecture capture has been devised by Avonic. The system uses multiple

PTZ cameras located at strategic positions throughout a venue to create a 'TV-like capture experience' at a video quality of 1080p60.

For local capture/recording, output from the T-Rex would typically be via HD-SDI. However, for streaming to a cloud-based capture system, the T-Rex supports the H.264 and H.265 codecs support for HDMI is also available.

The T-Rex can automatically switch between multiple camera angles to deliver a different viewing experience and is based on machine learning technologies that facilitate 3D speaker tracking without the need for the speaker to put on special equipment as it can be automatically or manually controlled via a web interface.

www.avonic.eu



Analog Way upgrades to LivePremier class

DEDICATED TO both staging and systems integration, Analog Way has created a new platform of modular and scalable 4K/8K multi-screen presentation systems and videowall processors. The LivePremier series consists of four preconfigured products in the form of Aquilon RS1, RS2, RS3 and RS4 together with the C and C+ customisable models that can be tailored for use in any project or event. The French manufacturer has incorporated its most powerful 4K/8K presentation system to date into the LivePremier series together with unique I/O capabilities and up to 120-megapixel throughput.

The ultra-low-latency Aquilon systems have been designed to combine real-time 10/12-bit 4:4:4 video processing power and 4K60p on each input and output. Field-



LivePremier

replaceable I/O connector modules allow connectivity to a variety of

formats including HDMI2.0, DP1.2, 12G-SDI and future potential

formats such as single-cable 8K60 and IPTV transports.

In its largest chassis configuration, LivePremier Aquilon offers up to 24 4K60 inputs and 20 4K60 outputs configurable as single screens, edge-blended widescreens or scaled auxiliary outputs, two dedicated 4K Multiviewer outputs, or up to 24 4K or 48 HD freely assignable layers. Advanced display configurations include custom output formats, output rotation, area of interest, bezel compensation and pixel pitch management.

Eliminating the need for external audio embedders and de-embedders, native Dante audio routing capability has been integrated into the design to embed or de-embed up to 64 channels of audio over a Dante network. Mission-critical features

such as redundant hot-swappable power supplies and smart thermal management provide uninterrupted performance.

For ease of set up and control of multi-screen presentations, the HTML5-based Web RCS user interface has been developed. Compatible with any device or platform including iOS and Android devices, Web RCS offers many unique features that simplify configuration and operation. These include live programme/preview workspaces with high-resolution dynamic thumbnails of connected sources, multi-operator collaboration with password protection and user privileges, walkthrough guides, keyword search and multi-language support.

www.analogway.com

Razor-sharp quality

COMBINING CONTRAST ratio, durability and affordability, the APS Series of 3LCD laser projectors from Christie delivers 6,500 ISO lumens, and a five-year and 10,000-hour warranty, whichever comes first. The LWU650-APS and LWU530-APS have been designed for classrooms, boardrooms or other small-space environments. They feature an efficient laser illumination system and patented optical light path design that uses only one motor. 'The patented optical light pass design changes the excitation light spot shape from a round spot to a rectangular shape and disperses the energy on the phosphor wheel, which improves the reliability of the phosphor wheel,' explained Jim Hall, senior product manager, Christie. 'Featuring flexible input/output options, an on-board 16W speaker and omnidirectional design and whisper-quiet operation, the APS Series provides razor-sharp image quality whether it's a presentation, dataset or video.'



FHD553-X

The panels do not have radio frequency functionality, so no unauthorised users can access the system – adding an extra layer of security.'

The FHD553-X flat panel has been designed to replace the FHD552-X and features an ultra-narrow bezel flat panel with full HD resolution, high pixel density and an

LED backlit screen. The panel can be installed in either portrait or landscape mode and comes with a three-year parts and labour warranty.

Nearly a decade after the launch of Christie MicroTiles, the manufacturer has launched MicroTiles LED. The smaller, brighter, more powerful and more flexible LED version delivers

P3 colour space, complies with HDR-10 and is suitable for broadcast sets, corporation venues, museums, retail, stadiums, arenas and higher education. It includes a low-profile, ADA-compliant QuickMount system so displays can be created in any shape and size, including 90° inside/outside corners and both concave and convex curves.

www.christiedigital.com



Mirage 304K

The Mirage 304K is a 30,000-lumen, 3DLP, 4K projector combining a compact form factor, light weight, powerful processing and user-friendly features such as built-in warping and blending, nearfield communication monitoring and an at-a-glance preview screen. Based on the industry's only 4K, true 120Hz capable projection system and featuring Christie's TruLife electronics, the Mirage 204K has been built for omnidirectional deployment and can be mounted and operated in any orientation.

The Secure Series of flat panels has been developed for government, corporate or military environments, or other facilities that require top security at all times. The first two models are the SUHD551-L and SUHD651-L and include OPS slot, UHD resolution and USB playback. 'Customer requirements for a professional secure display without RF are going largely unmet,' said Jim Hall, senior product manager, Christie. 'This series includes compliance with current TAA requirements.'



MicroTiles LED

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Lightweight 4K projection

CANON HAS added two new models to its range of 4K projectors – the 4K5020Z and LX-MH502Z. The 4K5020Z offers a compact and lightweight chassis that incorporates a spigot fitting and delivers 5,000 lumens using a blue laser diode light source and yellow phosphor wheel. The interchangeable lens projector is fitted with an RS-SL07RST 4K lens for 'more accurate optics'. With a 1.76x motorised zoom, the RS-SL07RST also enhances the projector range.

Meanwhile, the LX-MH502Z aims to provide a more affordable DLP laser projector, using pixel-shifting technology to achieve 4K UHD resolution in 3840x2160.

Comparatively, the 4K5020Z produces 4096x2160 native 4K resolution. Both the 4K5020Z and the LX-MH502Z weigh 9.3kg and are ideally suited for small or awkward installation environments. Boasting a 1.6x zoom and wide lens shift, the LX-MH502Z offers versatility in installation for a wide variety of applications. When projecting in a confined space onto a broad surface, the LX-MH502Z employs a one-chip DLP to achieve a projection range of up to 6.5m.

The 4K5020Z is equipped with a motorised lens to simplify planning requirements, while the laser diode and yellow phosphor light source in both projectors allow them to be used in any 360°



4K5020Z

orientation for more versatility. Additionally, portrait projection is possible to meet the needs of digital signage applications. Both the 4K5020Z and LX-MH502Z are fitted with two HDMI inputs,

offering 4K/60p using a single HDMI cable, plus HDR and 4K at both 60p and 30p, respectively.

The 4K5020Z is also equipped with a 12-month scheduling function, which allows for

programming and automation to the power, inputs, lens and calibration for reduced management time. Designed to help improve the cost of ownership of 4K projectors, the 4K5020Z and LX-MH502Z are equipped with a laser light source to facilitate 24/7 operation. With a filter-free composition, the LX-MH502Z reportedly has a life span of 20,000 hours with nominal maintenance time, no cleaning requirements or lamps to replace. Additionally, both have a quick power on/off function for on-demand use and an eco-mode setting to ensure longer, quiet operation.

www.canon.com

New firsts for Epson



EB-L12000Q

EPSON IS laying claim to a new industry first with the launch of the EB-L12000Q 12,000-lumen native 4K 3LCD laser projector. The EB-L12000Q includes a native 4K panel developed by the manufacturer to offer a 4K resolution at 3840x2160 pixels for projections of a higher quality than UHD.

Driven by Epson's proprietary laser light source, the EB-L12000Q is suited for use in particularly demanding projection environments, such as large auditoriums and sanctuaries, as well as for digital signage applications.

Also new is the EB-L20000U, Epson's first projector aimed towards 20,000-lumen WUXGA installations. Both the EB-L12000Q and EB-L20000U are designed to be light and compact, and include an advanced electrostatic filter for delivering

20,000 hours of 'maintenance-free' operation, in addition to Epson's laser light source structure.

A triple layer dust-proof structure housing a sealed optical engine reportedly ensures durability for the EB-L12000Q and EB-L20000U by reducing their airflow by 86% compared to previous models. A liquid cooling system, meanwhile, keeps the projectors' key optical elements within the sealed optical engine running at optimal temperatures. Additionally, both projectors include a mechanical shutter to protect the lens from laser light damage.

The projectors are both able to rotate 360° in all directions without losing image brightness. A built-in camera assists with remote diagnostics and set up, and Epson's Professional Projector Tool software facilitates the simple set up of multi-

projector installations with features including geometry correction, automated edge-blending, curve correction and colour matching.

Both models are also equipped with the same 4K-compatible lenses found in the Epson EB-L1000 series projectors. They are also compatible with the new zero lens offset ultra-short throw lens ELPLX02, which features a wider lens shift for environments with a limited distance between the lens and the screen. The new projectors also support Hybrid Log Gamma and HDR10.



EB-L20000U

www.epson.com

Sony projects two further lasers

SONY HAS extended its laser projector lineup with the introduction of two new installation models. Developed for large image and high-brightness projections in mid-sized environments such as education, corporate and public applications, the VPL-FHZ75 and VPL-FHZ70 models provide WUXGA resolution and colour light output of 6,500 lumens and 5,500 lumens, respectively. Both laser projectors incorporate a newly developed, 0.76-inch LCD panel with an integrated optical compensator to deliver bright and vibrant images with high contrast of ∞:1 and true-to-life colour reproduction.



VPL-FHZ75

The 'intelligent setting' feature simplifies the installation process by automatically selecting the best configuration based on the application, for which there are four preset modes including

meeting/classrooms, museums, entertainment venues and multi-screen setups. The VPL-FHZ75 and VPL-FHZ70 projectors optimise their performance in relation to each environment,

such as a brightly lit meeting room where brightness is most important, quiet environments such as museums requiring low noise level and multi-screen use where colour matching is vital.

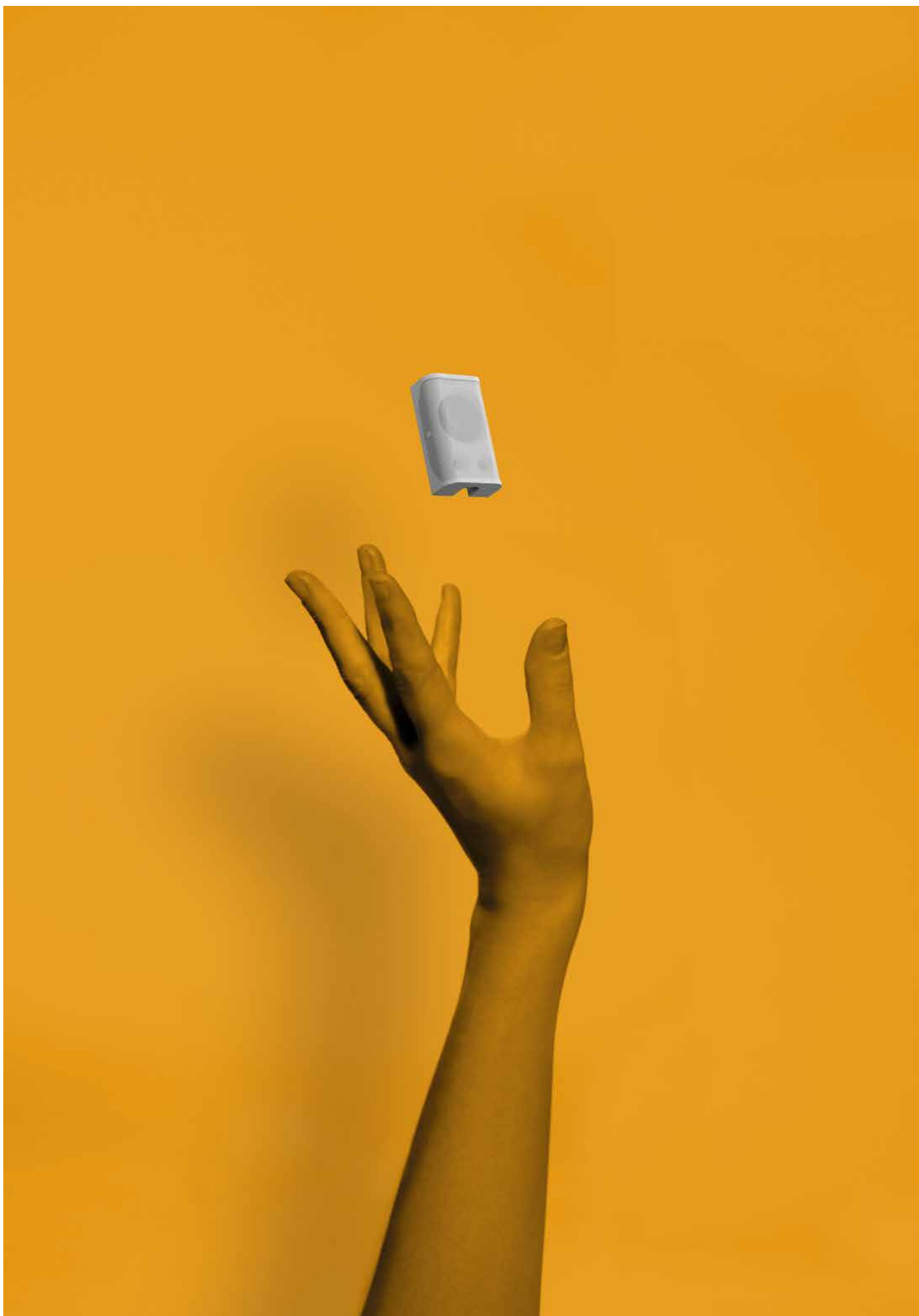
Their compact, lightweight and unobtrusive design promotes their use in applications that may operate in imperfect ambient light settings and irregular-shaped rooms. The projectors can also be placed in higher locations than previously with the development of a wide lens shift of +70% vertically. In addition to creating more options for projection positioning, it also ensures that the presenters and visitors are not distracted by the light source.

Available in black and white finishes, these additions complete Sony's lineup of laser projectors including the flagship VPL-FHZ120L with its 12,000 lumens. As all laser models can be controlled over the IP network with Bravia professional displays, facility managers can power on/off both the projectors and displays simultaneously.

Sony has also announced the introduction of version 4.0 of its Venice firmware. The update adds 700 Protocol, a control protocol that connects Venice to a remote-control unit (RM-B740 and RM-B170) and an RCP-1500 series remote control panel to give filmmakers greater flexibility.

pro.sony

Lizard-KZ1 An innovative sound experience from a 0.5" high-efficiency driver | k-array.com



At K-array, we concentrate all our efforts and resources in the revolutionary design and manufacture of highly-efficient sound systems. Needless to say, our Lizard-KZ1 is an astoundingly small loudspeaker. In fact, it measures 22 x 37 x 10 mm and weighs only 23 grams.

K-ARRAY
Unique Audio Solutions

4K capability for Titan

ABLE TO produce up to 33,000 lumens, the latest incarnation of Digital Projection's Titan three-chip DLP projector has hit the market. The Titan Laser 33000 boasts DisplayPort, HDMI 2.0 and HDBaseT connectivity, while also introducing High Dynamic Range (HDR) processing to large venues.

Additional features include Constant Brightness Control and DMX Art-Net compatibility, making it suitable for fixed installations, along with Non-linear Warp, Geometry

Correction, Edge Blending and Picture-in-Picture as standard.

Users of the Titan Laser in live environments also benefit from the real-time clock for on/off automation, email alerts and PC-based central control software. An optional lens adaptor allows a variety of non-Digital Projection lenses to be used with the Titan, overcoming the penalty of investment in new glass when upgrading to the latest projection technology.

www.digitalprojection.com



Magewell adds pro conversions

THE NEWEST addition to Magewell's Pro Convert range, the Pro Convert HDMI 4K Plus, is designed to convert sources of up to 4K UHD at a full 60fps via an HDMI 2.0 input interface. Its sibling, the Pro Convert HDMI Plus, meanwhile, encodes HDMI source signals into full-bandwidth NDI streams of up to 1080p60 HD

'Pro Convert devices are designed to help customers effortlessly connect their current sources into NDI workflows,' explained Magewell's Nick Ma. 'Our flagship 4K models are ideal for users who are currently producing in Ultra HD or plan to in the future, while our 1080p60 models offer a lower-cost alternative.'

Both models feature extremely low

latency and are designed for plug-and-play operation.

Added control is available with a browser-based interface that offers status monitoring, advanced settings and FPGA-based video processing including up/down/cross-conversion, de-interlacing and image adjustments.

Also joining the Pro Convert family is the Pro Convert SDI 4K Plus, which converts 6G-SDI signals up to 4K at 30fps into NDI streams.

www.magewell.com

The Pro Convert HDMI 4K Plus

and can accept a 4Kp60 HDMI input signal for automatic down-conversion to HD for encoding. Both solutions have been created to allow traditional HDMI video signals to be brought into live, IP-based production and AV infrastructures via NewTek's NDI technology.



AVoIP platform supports Dolby Vision

ATLONA HAS designed its OmniStream AVoIP platform to support 4K Dolby Vision HDR content at 60fps, with 4:2:2 chroma sub-sampling and 12-bit colour resolution, to be distributed over standard gigabit Ethernet data networks.

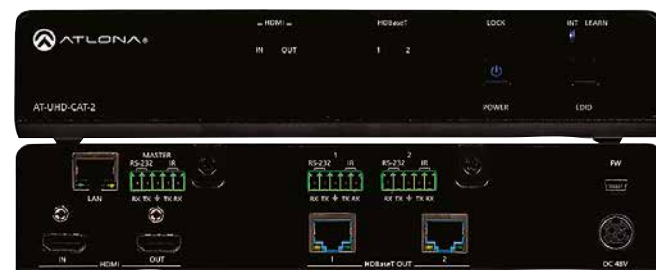
Commenting on the reason for the release, Atlona director of product management, David Shamir, said: 'Dolby Vision has earned its reputation for enabling superior, life-like images, but the lack of full compatibility in AVoIP and other video distribution systems has prevented AV customers from being able to fully realise its visual benefits.'

The OmniStream AVoIP platform was initially formed to assist systems integrators and custom installers build more flexible and scalable AV distribution systems. While the OmniStream Pro line is aimed at medium-to-large commercial environments, the OmniStream R-Type Series is more suited for light applications, including whole-house AV distribution. The new Dolby Vision capability is available for single-channel Omni-121, dual-channel Omni-122 and Omni-521 networked AV decoders.

The AV solutions manufacturer has also launched the AT-UHD-CAT-2, the latest addition to the company's lineup of HDMI and

HDBaseT distribution amplifiers which brings many of the features found in the company's UHD-CAT Series to smaller AV distribution applications. Having received requests from integrators and end-users for a model with only two outputs, the AT-UHD-CAT-2 features one HDMI input, one HDMI pass-through output and two HDBaseT outputs for distributing 1080p content up to 70m or 4K/UHD material up to 40m over category cable. Each HDBaseT output delivers video, audio,

The AT-UHD-CAT-2 supports 4K/UHD video at 60Hz with 4:2:0 chroma sampling and is compliant with HDCP 2.2 to reportedly enable reliable distribution of copy-protected content. The UHD-CAT-2 is compatible with Atlona receiver options including the AT-UHD-EX-70C-RX, the AT-HDVS-200-RX HD receiver and scaler, and the AT-HDVS-SC-RX4K/UHD receiver with CrystalScale scaling technology. The UHD-CAT-2 offers TCP/IP, RS-232 and IR control capabilities for flexible integration,



AT-UHD-CAT-2

remote PoE receiver power and control signals – including RS-232 and IR, plus CEC for automatic display control – over a single cable, with the aim of simplifying installation and minimising cable runs between AV sources, control systems and displays.

and can be remotely configured, managed and monitored over a LAN, WAN or VPN with the Atlona Management System (AMS 2.0) software or Atlona's IP-based Velocity AV control platform.

www.atlona.com

Roland mixes content for streams

ROLAND'S VR-1HD is a broadcast mixer designed for streaming video content captured using a multicamera setup. The manufacturer has developed the mixer to help users broadcast online content with a picture quality and sound that 'outperforms videos live streamed from just a mobile phone or static webcam'.

The VR-1HD enables users to connect, switch and stream cameras and presentations, as well as content from smartphones and tablets, with HDMI inputs. The mixer has three inputs that each accept HD and computer video resolutions. Embedded audio can be mixed with line inputs and a pair of XLR microphone inputs. A top-mounted mic input allows the use of a gooseneck microphone for operation without the need for a headset or handheld mic while controlling the VR-1HD with its dedicated controls.

Also included with the VR-1HD is video editing software

that features scene switching functionality, for transitioning between scenes with a professional look. Users can set up to five preset scenes for use during live streaming.

Removing the legwork from vision mixing are three auto-switching modes. The first, Video Follows Audio, switches between cameras based on who is speaking into the microphone. If more than one participant speaks or remains silent at the same time, the VR-1HD can switch to a wide shot that captures both performers.

Second, Beat Sync Switching mode listens to the tempo of a performance and automatically selects which camera inputs to switch between. Finally, Auto Scan is the mode recommended for use on extended live streams with no operators, as it allows users to preset specific times for switching between sources.

proav.roland.com



A new Era for Martin

HARMAN LIGHTING brand

Martin Professional has introduced the Martin Era 300, an 'ultra-compact' 260W profile with a white LED engine that's designed to produce a sharp gobo projection with a flat field. The manufacturer states that the Era 300 'fits nearly anywhere, is easy to handle and rig', and has been developed as a compact and affordable lighting option.

The Era 300 also boasts a wealth of features not often found in fixtures of its class, such as CMY colour mixing, 1:2 zoom, 9,500 lumens of output, electronic dimming and strobe, a colour wheel, two layers of gobos, iris, rotating prism and pan/tilt capability. The fully electronic dimming enables fast strobing, instant intensity control and a flat, consistent field that can be maintained down to zero, while the on-board CMY colour mixing covers



everything from subtle pastels to bold and vibrant colours as well as fast transitions and smooth fades. With a 13–28° zoom, the Era 300 profile can be used for various trim heights and is wide enough to cover smaller stages.

www.martin.com

Broadcast-quality image capture

VADDIO HAS released a PTZ camera with 40x zoom, genlock capabilities and smoother motor movement. The 'broadcast-quality' RoboSHOT 40 UHD has been designed with a genlock external sync port to provide accurate synchronisation in multicamera broadcast environments and is built with phase compensation to fine tune and adjust the genlock signal.

The camera provides 4K resolution at 30fps through 30x zoom,

according to Rob Viren, product manager at Vaddio. Used in HD mode, the camera can also achieve a 40x zoom in 1080p60, producing extreme close-up shots.

The 1/2.5 Type Exmor R CMOS sensor aims to offer more powerful image signal processing for better



light-gathering capability, contrast and sharper 4K video to tackle more complex lighting locations. Other features include 70.2° horizontal field of view (wide) to 4.1° (tele), simultaneous IP streaming (RTSP/RTMP format with H.264

compression) up to 1080p30, remote management and further flexible mounting options.

www.vaddio.com

Chauvet casts a wide light

DESIGNED FOR indoor and outdoor stage applications, Chauvet Professional has released a rectangular wash fixture with an output of up to 9,480 lux at 5m for smoother edge-to-edge colour mixing. The IP65-rated COLORado Panel Q40 features a magnetic flood filter that produces a much wider, but still even, wash.

Powered by 40 15W RGBW LEDs and an adjustable beam angle of 15–24°, the COLORado Panel



Q40 measures 515mm x 196mm x 304mm and weighs 12.8kg, making it more convenient to set up and transport, and features

outdoor-rated power and data connectors that can connect without the need for propriety cabling. The wash fixture, which can be controlled via DMX, WDMX and RDM, also has a colour temperature range of 2,800–10,000K and selectable pulse width modulation that avoids flickering when events are being filmed.

www.chauvetlighting.com

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ADB lights the Ocean

ADB STAGELIGHT'S Ocean lighting console provides operators with access to all functions and parameters through a single, 27.5-inch screen. However, the console and screen are still compact, giving users a clear view of the stage, regardless of where they are sitting. The console can be placed on small surfaces, while the shallow depth means that users can easily reach the touchscreen. The console comes with four Ethernet ports.

'The word Ocean conjures up the idea of a horizontal landscape, which spreads out in all directions, but still allows us to see the horizon,' explained Simone Capeleto, CEO of ADB. 'It is a metaphorical representation of what we intend to offer operators in practice: a way to



Ocean

let them see as many things as possible on a single screen and, at the same time, keep what is happening on the stage under perfect control.'

Orkis is ADB's new colour LED Fresnel luminaire. It has a

CRI of at least 97 thanks to a modern six-colour LED system and can faithfully reproduce the behaviour of a halogen light. With a colour temperature from 8,000–2,500K, the white light it produces is described as extremely pure

as it combines six colours, and the CRI is reportedly unaltered when the colour temperature changes. It can be used as a flood light up to an 87° field angle or a spot light with a beam angle of 15°. The Orkis can be modified into a PC luminaire by changing the lens with the relevant accessory.

Oksalis, meanwhile, is a static LED washlight that is based on HCR (High Colour Rendering) technology. It is an LED light module consisting of six chips, each one devoted to a different colour: amber, cyan and lime have been added to the classic red, green

and blue colours. Similarly, Klemantis is an asymmetric cyclight based on a six-colour LED module and also uses HCR technology. Together with Oksalis, both lights form a range that is said to provide a very wide colour range with an 'extraordinary' colour spectrum coverage.

The HCR technology has been developed by ADB and Claypaky in conjunction with Osram. According to Claypaky, the technology 'guarantees broader coverage of the colour gamut' and gives lighting designers access to 'every nuance and every shade of every colour'.

www.adbstagelight.com



Orkis



Oksalis

Compact frame-free lightbanks

A NEW lightbank has been added to Chimera's Pop Bank series to expand its range for Litepanels Astra and other 1x1 fixtures. The Pop Bank Small requires no mounting hardware or frame, and slides over the front of the fixture for ease-of-use and portability. It uses the lighting designer's standard small size front screens and increases the aperture of a 1x1 LED panel-style fixture to 607mm x 83mm. The lightweight and collapsible Pop Bank Small comes as a kit, with grid-less front screens in full and half, packed in a messenger-style kit bag and can be used vertically or horizontally.

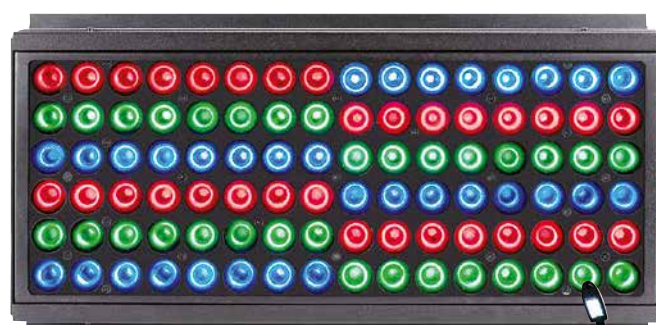
www.chimeralighting.com



Hybrid high-power LEDs

ELATION PROFESSIONAL has merged hybrid with high intensity in the latest addition to its Protron line of strobe lights. The high-powered and versatile LED luminaire has been designed to multifunction as a bright blinder, powerful strobe, high-output wash light or special effects. The Protron Eclipse features 10W CREE RGBW four-in-one LEDs with pixel zone control, strobe intensity, duration, rate and FX control and has been created to fill multiple requirements in the rig on productions of all sizes.

With 96 10W RGBW LEDs producing 37,000 lumens of power, the Protron Eclipse offers a fuller spectrum of colour options, including high-impact white light, for a barrage of coloured or white light effects. The fixture projects light at a 31° beam angle, while an adjustable strobe (1–25fps) can produce rapid strobing effects with the added option to select pixel



Protron Eclipse

control. In addition, the luminaire can be dimmed down to 0% and a selection of variable dimming curves is provided.

Fitted in a robust housing for on-the-road use, rigging options include an adjustable/removable yoke bracket with three-position mounting holes, a 1/4-turn omega bracket and integrated interlocking pins for easy multiple fixture matrix designs. With an

IPX4 rating for protection against water spray, the unit is also suitable for temporary or more rugged outdoor applications. Barn door and gel frame

holder accessories are available for added versatility, while the luminaire's interface includes control support from DMX, Art-Net, Kling-Net and RDM protocols.

In other news, Obsidian Control Systems has launched the NX 4 as part of its lighting control platform, Onyx. Designed for large shows, it features a well-arranged combination of motorised and manual faders, as well as 44

playbacks. The NX 4 also includes a 15.6-inch, full HD multitouch screen with support for two external 4K touch displays. Eight assignable parameter encoders, an intensity encoder, an assistive minitouch screen and a keypad and command section are included. The NX 4 also includes

an Intel Hexa-Core processor, high-speed NVMe SSD drive and 16GB of DDR4 RAM.

www.elationlighting.com
www.obsidiancontrol.com



NX 4



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DC-12/2





Aerial view Image courtesy of National Kaohsiung Center for the Arts (Weiwuying)

Military precision

Having transformed a former military recruitment base into a national performing arts centre, the Kaohsiung city government is peacefully enlisting public support. **Richard Lawn** reports from Taiwan

SIXTY YEARS AGO, ARMY PERSONNEL AT THE FORMER

Weiwuying military recruitment base gave blood, sweat and tears for their national cause. Today, the 3 million inhabitants of Kaohsiung have been presented with a peaceful solution as the base has been transformed into the iconic National Kaohsiung Center for the Arts, aka Weiwuying after the 116-acre park it sits within.

Occupying 141,000m² within the park, the single sweeping building merits its claim to be the largest performing arts centre in the world. Gaping openings in its curvaceous shell create a cave-like landscape, the floor rising up in great waves as the ceiling plunges down to meet the ground to form tunnels and canyons. The steel structure is penetrated in places, bringing in shafts of light and offering glimpses of the venues within, while natural air is channelled to provide respite from the tropical heat of the coastal city.

Following the decision to use the land as a national performing arts centre in 2003, the Taiwanese Ministry of Culture commissioned Dutch architectural firm Mecanoo to create blueprints four years later. Dutch theatre consultant Theateradvies, French acoustician Xu-Acoustique and Taipei-based Yitai Consulting were also appointed and, following initial ground-breaking in 2010, construction began in 2012.

Located in southern Taiwan, Kaohsiung – a major international harbour – is promoting itself as a culturally rich and diverse city. With a mission to connect local and global talent through arts and culture, the centre for the Arts symbolises the outlook for both the city and the island. The venue's welcoming

ambience contrasts markedly with Taipei's regal National Theatre and Concert Hall venues built in the late 1980s.

Mecanoo adopted the banyan tree as the basis of its bold, unique architectural design, inspired by the natural tree canopy of the surrounding park. The four performance spaces are separated by trunks, which effectively support the undulating roof rising above the park's landscape. They exist under the artificial canopy to create the extensive Banyan Plaza, which serves as a partially enclosed public space. The single sweeping building incorporates the Opera House, Concert Hall, Playhouse and Recital Hall venues, together with an outdoor theatre which links the building to the park.

Arranged as a horseshoe with three circled balconies, the 2,236-seat Opera House at the heart of the complex hosts opera, major drama productions and dance, the furthest seat being just 38m from the stage. Suitable for western opera with a 70-piece orchestra, the Opera House can also be acoustically adapted to accommodate traditional Chinese opera by manoeuvring a suspended acoustic canopy. The Opera House interfaces with an enormous backstage area four times the size of the auditorium, which can store enough scenery and equipment for five different shows.

Measuring 55m from the floor of the elevator pit to the ceiling of the grid, the Opera House comprises a fully equipped fly tower with 71 fly bars that can be stored 25m above the stage, two side lighting boxes and further rails for adding lighting fixtures. There are a further five fly bars and three sets of chain hoists above the orchestra pit. IX Technology also integrated

16 chain and 12 point hoists with 24 cable reels above the grid floor to connect to every fly bar. Other features include three catwalks, lighting towers, 10 stage wagons, one revolve wagon, three personal elevators and a main stage elevator.

The acoustics in the stalls are divided into four sections by balustrade walls inserted with MLS (maximum length sequence) diffusers, while large mechanical acoustic curtains close off the side and rear stages.

For less amplified performances, there is a Renkus-Heinz Iconyx system of six IC16/8-R-II columns. The higher SPL solution is provided by a Kling & Freitag Sequenza 10 line array system comprising eight flown and three ground-stacked dual 10-inch cabinets per side. Lower-frequency extension is added by six Sequenza 15B dual 15-inch omnidirectional subwoofers, four installed in the ceiling and the other two ground-stacked.

The Renkus-Heinz inventory is completed with a pair of PN151/9s, eight PN61s, 12 CFX41 front-fill coaxials and 14



The National Kaohsiung Center for the Arts is a statement that Taiwan means business on the international cultural stage

PN121 monitors. Soundtube MI600 ceiling speakers provide under balcony coverage. Providing system compatibility and redundancy, the remainder of the audio, lighting and video equipment mirrors that of the other venues.

'Each of the four halls presented distinctive acoustical and coverage challenges,' says IX Technology project manager, Sam Chang. 'We overcame most by adopting Renkus-Heinz Iconyx beam-steering technology, but we also relied on the manufacturer's wide variety of fill and subwoofer loudspeakers. By carefully combining these elements, we were able to provide excellent coverage in all four venues while maintaining consistency in voicing.'

Featuring the largest organ in Asia combining 9,085 pipes divided into a symphonic instrument and a smaller echo organ, the Concert Hall makes an impression with its oak flooring and balustrades, champagne-coloured seats and stepped vineyard layout. Despite its 1,981-person capacity, it retains an intimate feel, with the furthest seat 30m from the stage. Acoustician Albert Xu built a 3D 1:10 model of the venue using Odeon software, calculating optimal reverberation time for every type of performance imaginable. He also ensured each of the distinct characteristics of the other three spaces were calibrated to maximise versatility of use.

Raising the bar

Stage machinery and rigging for all four venues were provided by Waagner-Biro. In the Concert Hall, this included 15 stage elevators arranged in a semi-circular configuration, a movable acoustic canopy, a set of chain hoists for rigging and nine ceiling hatches with lighting and audio positions.

A 22-tonne, glass-reinforced gypsum (GRG) acoustic reflector is suspended from the ceiling for lowering and raising according to the performance. For acoustic concerts, the ceiling is kept closed but, for amplified or staged concerts, it can be opened up. In addition to improving reflections for the audience, the acoustic canopy was primarily designed to improve monitoring



L-R: Kaohsiung Center of the Arts' technical director Mei-Lin Chen and production director Jack Kuo with IX Technology's Sam Chang and Kevin 'Six Dollars' Lin

HEADING THE six-year mission from IX Technology, Sam Chang was the project manager, while Kevin 'Six Dollars' Lin headed the crew as technical site manager. Rarely seeing their native Taipei for the duration, the team lived, breathed and worked the project. 'When we started submitting the systems diagrams, cabling infrastructures and layouts, we knew what we were up against as they were on a scale like no other,' says Chang.

Numerous meetings unfolded, initially with Keh Hua Lin from Yitai Consultants. 'We spent three years discussing how to piece together this enormous jigsaw puzzle,' continues Chang. Changes were a constant. 'Because the project kicked off in 2007, most of the technologies specified then were outdated 10 years later, such as SDI video transmissions. However, we retained SDI flexibility alongside HD.'

Delays in construction meant the IX Technology team could not enter the site until the pre-conduit part of its fulfilment was given a green light. 'When we did enter, we fully comprehended the magnitude of this project. This wasn't a 2D drawing or schematic anymore. It was a huge and overcrowded building site with various contractors getting in one another's way. Virtually every drawing and plan was changed or modified during the installation.'

beyerdynamic

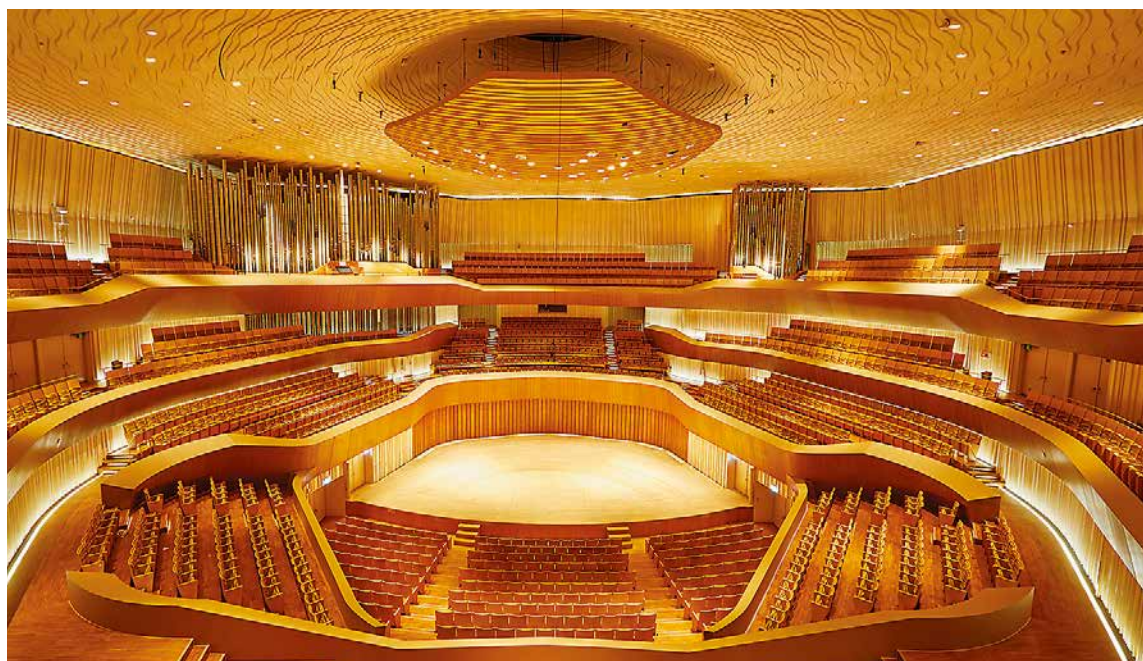
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The Concert Hall Image courtesy of National Kaohsiung Center for the Arts (Weiwuying)



Catwalk locations were compromised by a forest of hanging rods

for performers. Often fixed around 14m above the stage floor, it can be raised up to 17m when the pipe organ is in action or down to 9m during a piano recital.

Created by Xu as a box within a box for acoustic isolation, the inner box comprises a ceiling of dense GRG that enhances the low frequencies. The inner ceiling is suspended from the outer one by a dense forest of square hanging rods, which created challenges when positioning the catwalks and lighting boxes. Separated into 17 groups by balustrades, the seating layout has been designed for natural audio reflections in the auditorium. With a full audience, the reverb time is 2.2s. The rear wall of the stage comprises 74 rotatable panels measuring 2.2m – 2.6m in height providing different levels of absorption.

Fulfilling a significant role as the AV, lighting and stage technology integrator for the entire project, IX Technology, a Linfair Company, spent over six years onsite translating and interpreting blueprints for real-world execution. In light of the extensive acoustic works, both Theateradvies and Yitai Consulting concurred that the audio reinforcement should be sensitively applied, and Renkus-Heinz digitally steered Iconyx line array loudspeaker systems adorn all four venues. 'We've installed remarkable results,' says Chang. 'The digital beam-steering technology enabled us to address the complicated requirements of this project and provide both clarity and speech intelligibility with their steering beams.'

Construction delays added considerably to the project's complexity. Having been awarded the contract in 2012, IX Technology ordered much of its equipment, including a Renkus-Heinz Iconyx IC3 system, to be delivered to site. 'Technology changes rapidly over two years and so the equipment dates and models needed to be updated as the project progressed,' Chang recalls. 'We eventually upgraded to the IC4 model, although the speakers sat in a non-air conditioned room over that time before they were installed. Kaohsiung is a subtropical city, so before the air conditioning was in operation, the high temperatures and humidity affected



Wagner-Biro provided a movable acoustic canopy in the Concert Hall

our equipment. It was like hell for the team working here. Like any huge construction site, there was a lot of dust, so we ended up spending massive amounts of time checking and resolving equipment problems.'

Amplified performances in the Concert Hall benefit from wall-mounted IC24-R-II, IC16/8-R-II Gen4 and IC8-R-II Gen4 digitally steered arrays. For additional front-fills, Yitai Consulting specified seven CFX41 4-inch coaxial two-way loudspeakers integrated into the lip of the stage and discreetly masked by



Studer Vista 5 MC consoles handle FOH in the main venues

fabric. Up to eight PN121M/12 speakers can be used for stage monitoring, processed manually by two rack-mounted BSS FCS-960 equalisers. Eight PN61s provide additional fills. Powered by Lab.gruppen C 10:4 amplifiers, the room's DSP presets have been configured and are stored within Renkus-Heinz Iconyx with an XTA DP448 processor as speaker management.

FOH and monitor mixing is via a Studer Vista 5 digital console. 'Studer is often associated with high-end broadcast applications, but the detailed Vistonics user interface makes it easy to use and smooth to mix on,' says Chang. The 32-fader desk consists of 20 channel strips optimised for input-channel operation, while the Vistonics screen rotary controls can bring up to 52 outputs under immediate control. 'While they were stored onsite during the construction, they suffered a little from the heat,' he continues. 'They're sensitive and the computer wants to shut down in extreme temperatures.'

A digital network is created between the Vista 5's DSP Core and a pair of Studer D21m I/O audio interfaces fixed



The Playhouse Image courtesy of National Kaohsiung Center for the Arts (Weiwuying)

IMPULSE *n. (technical)*

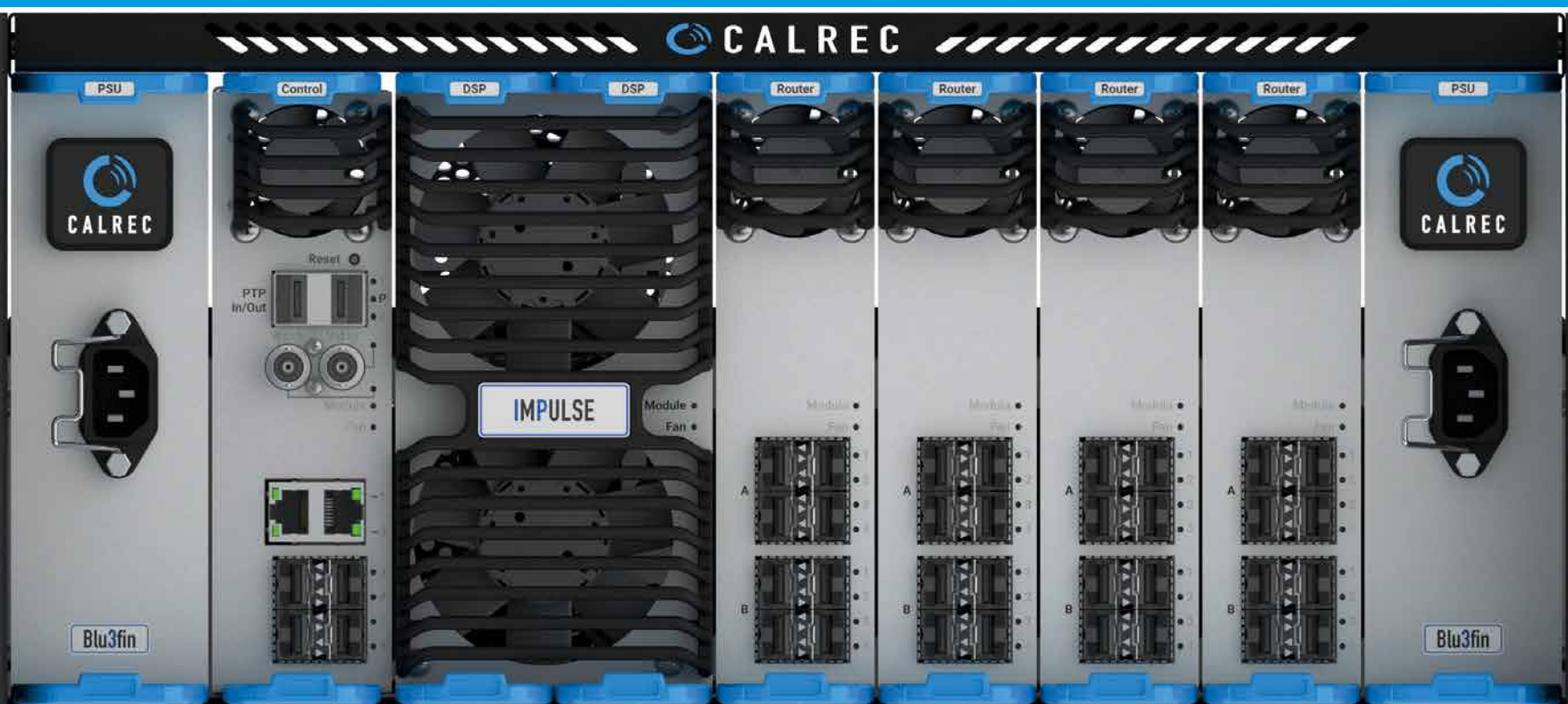
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within the rear panels of stage left and stage right. The 3U Core is loaded with up to 12 audio interface cards – in this case multiple MADI, HD and four-channel mic inputs – for connection over the Cat-5 cabling infrastructure to the D21m interfaces. Operating over a fully redundant MADI 64-channel I/O connection, the D21ms are remote controlled from the Vista 5. The DSP Scorelive is connected to the first D21m frame within the system by adopting the manufacturer's HD Link technology. Should additional I/O channels be required, local frames or hubs can be added.

Up to 12 channels of Sennheiser ew 500 G3 wireless microphones are available, operating on up to 88MHz bandwidth. Ethernet connectivity provides an overview of the parameters in the Wireless Systems Manager (WSM) control software for advanced frequency coordination within the Vista 5 control surface. The venue required the addition of four ASA-1 wireless antenna distribution systems to boost the signal. The microphone inventory includes a selection of Audio-Technica, AKG and Sennheiser condensers, lavaliers and shotguns, while a stereo pair of DPA d:dicate 4017B cardioids are suspended above the seats to capture ambience.

A customised stage manager's desk is positioned outside the stage right door, with Barco Medialon Manager V6 software providing show control over the IP network. Internal comms take place over a Clear-Com HelixNet partyline system operating over Ethernet. The IV Core platform combines digital clarity immune to electromagnetic interference with a traditional analogue partyline intercom offering BOH personnel with simplified setup and communication functions.

A 17-inch HD split screen connected to a Kramer MV-6 HD-SDI multiviewer switcher receives its HD and SDI signals from a Kramer MV-6 multiviewer.

Melbourne-based State Automation was awarded the contract to supply lighting to the Concert Hall, including Philips Strand Leko Lites, Selecon SPX and Arena units, Kupo PAR 64s, ETC Source Four PAR MCMs and Lycian M2 follow spots. Control is via an MA Lighting grandMA2, which can be remotely accessed from an iPad with grandMA NET2 software. A simplified video network provides digital signage in the pre-function and lobby areas, with a Kramer Aspen 1616HD-3G HD-SDI router receiving inputs and outputs and sending signal to an AMX NMX-ENC-1105 for video streaming.

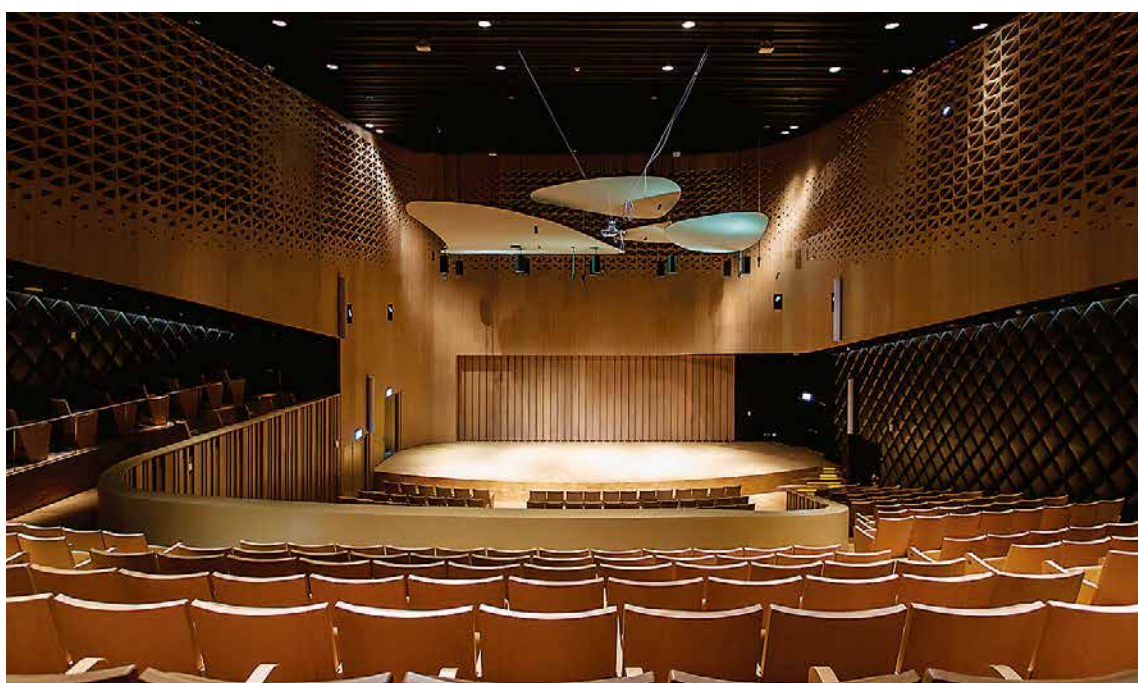
Performance flexibility

Seating 1,210 in its blue seats, the Playhouse can accommodate an orchestra in front of stage left during traditional Taiwanese opera to maintain a direct line of sight between musicians and performers. Designed to host a variety of experimental drama and dance in addition to Taiwanese opera, IX Technology undertook an enormous commitment to maximise performance flexibility. Reverberation time of the reverse trapezoidal-shaped Playhouse is an impressive 1.2s, with reflections delivered to the centre of the audience.

The space can be altered from proscenium to thrust configurations, shortening the distance between audience and performers. 'Each of the first seven audience rows is equipped with its own stage elevator, allowing them to be removed in 30 minutes should the stage need to be extended,' explains Chang. The proscenium stage with orchestra pit elevator has a capacity of 1,231 seats, but this is reduced to 1,067 in thrust mode. The first three rows



The Playhouse is equipped with a full fly tower of 75 fly bars that can travel up and down at 1.8m per second



The Recital Hall Image courtesy of National Kaohsiung Center for the Arts (Weiwuying)



The central cluster of Renkus-Heinz STX2-64 cabinets

to stage left can be removed to create a pit for a traditional Taiwanese orchestra under the main stage.

Removing the need for a retractable proscenium tower, the stage is equipped with a full fly tower and a computer-controlled rigging system. Spaced 200mm apart, the 73 fly bars can travel up and down at a rate of 1.8m per second, while the house curtain can operate at 2.4m per second. With pulleys integrated under the floor of the grid, a clean working area has been created with no steel cables or tripwires in view. In addition to the fly bars, the grid above the stage is further equipped with eight point hoists and 12 chain hoists.

A meandering catwalk follows the shape of the auditorium, providing front of house lighting positions in addition to the sides and balcony rails. Fixtures include Leko Lites, SPX and Arena units, Arri HMI Fresnels, Kupo PAR 64s, Philips Selecon Aurora cycs and ground rows, PL TR2 RGB strip lights and Lycian M2 follow spots. Lighting is controlled by a grandMA2 ultra-light console in the rear balcony operations room.

Two portable Digital Projection Titan Super Quad 1080p 3D projectors have been supplied. 'The portable nature of these meant that many panels had to be added for flexibility,' continues Chang. A Kramer Aspen 3232HD-3G video router lies at the core of the Playhouse video system, with Panasonic HD camera inputs controlled by a Hitachi PT-C55 controller integrated into an Eagle Pan Tilt system. A stage manager's desk integrates 17-inch HD split screens connected to a Kramer MV-6 HD-SDI multiviewer switcher in addition to Clear-Com HelixNet comms.

Flexibility and power were Yitai Consulting's main criteria when specifying an L-C-R speaker system for the Playhouse, with Renkus-Heinz's STX2 three-way CoEntrant Complex Conic ticking the boxes. Hidden behind the L-R proscenium walls, dual STX2/64 (60x40) and single STX2/94 (90x40) cabinets form the L-R system. Located above the tension wire grid, a further two clusters of STX2 cabinets cover central FOH (three STX2 60x40) and balcony-fill (four STX2 90x40), respectively.

The lower frequencies are extended by two Renkus-Heinz BPS15-2K dual 15-inch bandpass subwoofers installed behind the proscenium. When configured in proscenium mode, 12 CFX41 coaxials integrated into the stage lip cover the first seven rows of seats. DSP management settings for the STX loudspeakers are stored within Lab.gruppen PLM 10000Q amps with an XTA DP448 processor for speaker management.

Located in the rear control room, a Studer Vista 5 console is connected to four D21m audio interfaces. Surround mixing including two-channel stereo, L-C-R, L-C-RS and 5.1 formats can be performed from the Vista 5. The 5.1-to-stereo downmix function creates simultaneous live productions in both formats, while Virtual Surround Panning uses amplitude, time delay and frequency response panning. If preferred, Soundcraft Vi4 consoles can be set up by removing seats in the rear stalls of both the Opera House and Playhouse.

'Despite benefitting from a full-length window providing a full vista of the stage, the control room is closed, so we added a pair of Dynaudio BM12 mkIII monitors,' explains Chang. A TASCAM CD-RW901MKII CD recorder, DA-3000 stereo master recorder and AD/DA converter, and a JoeCo BBR64-MADI Blackbox recorder are provided for studio recording.

The venue is equipped with two ASA-1 wireless antenna distribution systems to boost eight channels of Sennheiser ew 500 G3 wireless microphones. Two stereo pairs of DPA d:dicate 4017B cardioids can be lowered and retracted from moorings above the Playhouse seats and stage.

Inside the Recital Hall

The intimate 434-seat Recital Hall has been designed for chamber music, solo and recital performances, affording the audience close-up details such as the hands of a pianist. With the same oak walls and champagne-coloured seats as the Concert Hall, the auditorium consists of two asymmetrical areas divided by a curved balustrade that scatters acoustic reflections around the room. The rear stage wall comprises 40 3.7m panels that can rotate to provide different levels of absorption for harsher classical Chinese music or jazz through to softer baroque chamber music.

The floating floor of this quiet venue is acoustically isolated by its springs and concrete construction, and air is circulated beneath the seats to lower the effects of AC interference. The box-in-box construction includes an acoustically transparent inner box. Between the boxes, sound-absorbing curtains have been installed in the upper part of the hall. Reverberation time can be adjusted between 1.1s and 1.3s via Gerriets control to 25%, 50%, 75% and 100% drawn settings.

The stage area of the Recital Hall has been kept relatively simple. A fixed acoustic canopy hides lighting positions from view and flexibility is enhanced with a lighting bridge and nine rigging points with chain hoists. Philips Selecon SPX and Arena lighting fixtures together with Kupo PAR 64s and ETC Source

Four PAR MCMs are controlled using grandMA2 ultra-light control NET2 software. Video inputs and outputs are routed through a Kramer Aspen HD-SDI matrix switcher, which sends signals to an AMX NMX-ENC-1105 for video streaming.

The commissioning of the four Iconyx IC16/8-R-II column speakers proved a complex challenge for KK Tan in his role as Renkus-Heinz Asia Pacific sales support. 'While it's an excellent design, the lack of symmetry made the adjustment of the delays much more difficult,' explains Chang. The lower and upper wall-mounted columns focus their energies on the seats below and above the balustrade respectively, while four PN61 6-inch models are installed as fills. Four PN121M/12 12-inch speakers can be deployed as stage monitors or a portable system. Located outside the venue, a Studer Vista 5 console can be remotely controlled via the MADI link using the D21m audio interface.

Mecanoo enhanced BOH functionality, interconnecting dressing, rehearsal and BOH function rooms of the four venues for the benefit of staff, while leaving stages and foyers isolated. The BOH audio system has a Rane HAL DSP solution for announcements and BGM along the corridors to suspended JBL Control 26 ceiling speakers. A central BOH logistic corridor runs from east to west connecting two loading docks on either side for accommodating up to five trucks.

Now the dust has settled, the venues are being put to use. 'As most cultural productions have traditionally been staged in Taipei, the Ministry of Culture felt the creation of the National Kaohsiung Center for the Arts would address the north-south balance,' explains production director, Jack Kuo. 'Both technical staff and performers are embarking on a steep learning curve. The more SPL we add, the greater the challenge as these rooms don't need much reinforcement. The degree of acoustic isolation that has been added is stunning – you can even hear your heart beating in the Recital Hall. If we're adding amplification, we need to make our calculations well in advance. The audio systems are relatively simple to use and IX Technology added presets,



Two Renkus-Heinz IC8-R-II arrays fixed to a Chanel handbag styled wall surface in the Recital Hall



Wooden panels can be transformed into diffusers by rotating them behind the stage

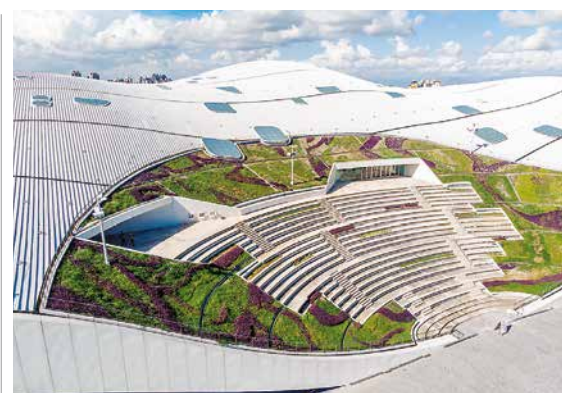


The stage and BOH area can host the largest productions in the Playhouse

configuring various speaker systems in different modes for every eventuality. What is more difficult is adopting them for varied performances – we're still experimenting, pioneering and finding our feet.

'With the president of Taiwan and VIPs in attendance, the opening day of 13 October was the most stressful day of

FEATURES: INSTALLATION



The outdoor theatre was a bonus from Mecanoo

Image courtesy of National Kaohsiung Center for the Arts (Weiwuying)

my career, but it turned out to be a triumph. We'd waited nine long years for that moment when it all came together. Since then, we've received wonderful praise from the initial performers. The design team and consultants combined to create something magical here that we are still experimenting with and improving as we go along.'

The monumental National Kaohsiung Center for the Arts is a statement that this major port in southern Taiwan demands inclusion on the international cultural stage. Weiwuying is marketing its attributes to the three million inhabitants who've been served by a 1,600-capacity theatre until now. Once the novelty of the venue's opening has worn off, the ability to fill such an enormous complex on a regular basis will be the next challenge for this magnificent venue.

www.linfair.net

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Clubbing in the clouds



A branch of legendary Singaporean club, Zouk, has opened at Resorts World Genting, with Void speakers ensuring SPLs as high as the surrounding hills. **Caroline Moss** investigates

WHEN ZOUK THREW OPEN ITS DOORS ON JIAK KIM STREET in 1991, it ushered in a whole new era of nightlife for Singapore. In a bid to bring global house music to the island state, local entrepreneur Lincoln Cheng had taken over three derelict warehouses on the Singapore River, filled them with artwork by Andy Warhol and Keith Haring, and invited international DJs to play at the three interconnected rooms that became the backdrop to so many young lives.

As gentrification and residential zoning hit Robertson Quay, Zouk eventually lost the battle to renew its licence, moving to its current premises at The Cannery at Clarke Quay, where an opulent new incarnation has opened. This reflects Zouk's ongoing maturity as a sophisticated brand; the club has come a long way since its heady days as the closest thing Singapore had to an underground dance club.

Proof of this sophistication can also be found at the latest Zouk to open, at Resorts World Genting (RWG) in Malaysia. Just 45 minutes from Kuala Lumpur and 2,000m above sea level, RWG provides a welcome escape from the heat, bustle and smog of the city. The first hotel opened there in 1971, with steady growth ever since, and, in 2013, the Genting Integrated Tourism Plan was launched: a 10-year master plan to refurbish and develop the hotels, theme parks and infrastructure of RWG.

This regeneration includes the arrival in the hills of Zouk, the rights of which were sold by Cheng in 2015 to Genting Hong Kong. Like the Singapore club, as well as a branch in Kuala Lumpur that opened in 2004, Zouk Genting has a number of outlets, namely the main Zouk club, Empire by Zouk, RedTail by Zouk, RedTail Karaoke and the Fuhu restaurant. All nestle under the 3,500m² Zouk Atrium.

Three of these areas – the two main Zouk and Empire nightclubs, as well as Fuhu – have been supplied with Void Acoustics speakers by the D8 Group, Void's distributor



D8's Sean Iskhandar with one of the red Void Airstream DJ monitors

for Malaysia and Singapore. Technical sales director Sean Iskhandar takes up the story.

'Digital Aid (D8), our rental and production division, worked with Zouk Singapore in 2017 on the ZoukOut festival,' he explains. 'When they found that we were also the distributor

for Void Acoustics, they invited us to participate in a shootout to choose a new system for Zouk Genting. They had seen a few Void Acoustics systems in clubs in Taipei and were interested to hear its flagship club speaker, the mighty Incubus system.'

A single Incubus stack system was flown into Singapore from Japan, accompanied by Void's APAC sales manager Callum Bowran along with Laurin Schaffhausen and Satoru Tochibori, Incubus owners from Germany and Japan, respectively. The shootout was held at Zouk Singapore, with great success, according to Iskhandar. 'The Incubus system, with its massive Incubus subs and Hyperfold bass system, literally blew the Zouk management away and shook the Zouk Singapore venue,' he says. 'The speaker's design and styling, along with great sound quality, clinched the deal for us.'

Indeed it did, as the main room at Zouk Genting has been installed with the first Void Incubus system in South East Asia. Working with Zouk's senior technical manager Rex Lim, who's been with the company for 16 years and designed the new venues at RWG, D8 supplied all the Void systems and supervised the entire installation. A standard red finish was chosen for the Incubus system in the main room, while a custom gold finish was selected for Empire.

Designed as a temple to electronic dance music, the main room at Zouk can accommodate up to 1,500 clubbers. Lasers and strobe light designs by Barcelona-based LEDsControl, known for its work on international festivals including the brand's own ZoukOut Singapore, illuminate the 800m² space, which has three bars, 30 tables and two private rooms. This main club can be combined with the adjacent Empire to hold a total of 1,800 people by removing a partition between the venues. As well as all things EDM, Zouk Genting will also showcase live performances and aerial acrobatics, as well as displaying urban art.

In such a setting, the choice of sound system was crucial, and the main dancefloor system consists of two Incubus Air Array three-way mid-high elements with two triple 21-inch Incubus Subs in a distinctive red colour; four Hyperfold compact folded horn-loaded upper bass speakers; two Tri Motion three-way mid-high cabinets; and four Stasys Xair double 18-inch horn-loaded subs. Twelve Airten V2 compact high-output dual 10-inch speakers, two Stasys 118 reflex-loaded 18-inch subwoofers and two Stasys 218 reflex-loaded double 18-inch subwoofers form the infill system, together with eight Venu 8 passive 8-inch two-way loudspeakers and a Venu X dual 12-inch compact low-frequency enclosure. A pair of Airstream DJ monitors comprised of a single 15-inch subwoofer with a coaxial 12-inch midrange and a 1.5-inch high-frequency unit give DJs the dynamic range and SPLs they need; these are reinforced with four Stasys 118 subs. The system is powered by a total of three Bias V9, six Bias Q5, five Bias Q2 and one Bias D1 two- and four-channel network power amplifiers.

Spanning almost 500m², Zouk Empire is a hip-hop club that can also provide a private party space for up to 500 people, with a bar and 20 tables. The concept was taken from New York's private, upscale club-lounges that cater for urban music. And it doesn't disappoint on the style front with fine art features on the walls, while a 6m LED screen behind the DJ decks displays VJ loop visuals.

'With the rising popularity and appreciation of hip-hop culture, we thought it'd be an opportune moment to introduce a brand new hip-hop angled concept,' said Zouk Group CEO and executive director, Andrew Li.

Empire has been installed with a main system of four custom gold triangular three-way mid-high Tri Motion and six Nexus XL 21-inch low-frequency enclosures with four custom gold grilles. Fills comprise seven Venu 8 loudspeakers, four Airten V2s and two Stasys 118 subs. The DJ monitor system in Empire consists of a further two Airten V2s and two Stasys 118 subs, and the system is driven by three Bias Q5 and five Bias Q2 four-channel network power amplifiers.



Top L-R: Laurin Schafhausen, Satoru Tochibori, Henry Ram, Callum Bowran
Bottom L-R: Tetsuya Miyashita, Sean Iskandar

Fuhu – which will host DJs to entertain clients as they dine – has also been installed with a Void system, keeping the audio consistent between the three main, high-energy venues. The



Customised gold Void Tri Motion Nexus XL in Empire

restaurant has been installed with 14 Venu 8s with five Venu Bass single 12-inch compact subs and two Venu 10 passive 10-inch two-way surface-mount speakers. Here, according to Zouk Group culinary director, chef Steven Chou, diners will experience '...delicious tastes, matched with theatrical presentation, exciting surrounding atmosphere... The end goal is to contribute to building Zouk's establishments as the ultimate hotspot to wine, dine and play.'

If ever an excuse were needed for leaving the city behind and heading for the hills, Zouk Genting can certainly provide it.

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The Conrad Bangkok sales and technical team; L-R: Eve, Fluke, Tom and Pum

Born again

The rebirth of the iconic Conrad Bangkok was the result of an extensive renovation. **Richard Lawn** discovers more

WHETHER INDEPENDENT TRAVELLER OR ROYALTY,

Bangkok's hospitality trade can cater for all visitors entering through Suvarnabhumi Airport to the Thai capital. Growing affluence can often be measured by a rising cityscape paired with increasing hotel rates. While the new 5-star hotels are capturing the imagination with the latest architectural designs and technologies, the older generation is earnestly keeping up with the pace of their ageing properties. Located in close proximity to Phloen Chit and the US Embassy, the Conrad Bangkok has become a seminal institution since opening its doors in 2003. Sixteen years on, however, the owners decided to wisely reinvest by upgrading the guest rooms, lobby and, of course, the ballroom.

The Conrad Bangkok's flexible conference space and meeting rooms are converged on a separate four-level wing of the hotel. The versatile, multipurpose room, which can be subdivided into three spaces, combines 875m² of flexible event space with a capacity for either 1,200 guests in reception mode or 1,000 in theatre mode. Ideal for concerts, business conventions, weddings, seminars, banquets and special occasions, millions of guests have entered through the pre-function area before being educated, stimulated, wine and dined.

In addition to VIP events, the hotel's regular clients include the Thai Army, foreign embassies and Asian Summit meetings. Following the decision to renovate, the ballroom was stripped back to plaster in June 2018 and completely remodelled. 'We maintained an extensive record of our clients' feedback since opening; in particular, the lack of room brightness, soundproofing between partitions and outdated technology,' says Conrad Bangkok assistant director of catering sales, Wipawee Muanchob.

Sixteen years is a long period of time in audio, lighting and video technology, particularly for the 32-channel analogue console, copper cabling, old projectors and decaying loudspeakers. Bangkok-based Intel Craft was called upon to supply and install an easy-to-use, flexible AV system designed by CCD into the refurbished space. Long-term duty AV engineer Pum Thanabul was also consulted for his feedback on what design aspects the divisible room would benefit from.



The main ballroom can cater for up to 1,200 guests



Amphenol audio and Crestron AV wall panels provide modular connectivity

The visuals have taken a quantum leap forward in ballrooms 1, 2 and 3 for which the main projection system is now a modular Absen LED wall with a pixel pitch of 3.9mm. Measuring 5m x 1m (HxW), each of the 21 front-loaded panels can be interconnected and uncoupled according to the client's requirements. A further 14 panels can slide into place onto overhead tracks along the 21.74m room width. HD inputs include three Blu-ray players, three Vaddio RoboShot 12 HDBT cameras for tracking speakers and three VGA inputs for each divisible room. Installed onto motorised scissor lifts towards the rear of the three ballrooms, three short throw Epson L1515SNL/ELPLU04 LCD projectors and Grand View



Duty AV engineer Pum Thanabul slides the modular LED panels into position

motorised screens can provide confidence monitoring for speakers.

Room flexibility was significantly improved during the construction phase in which Intel Craft added eight Crestron wall panels for connection to VGA, HDMI, USB and audio devices. The same locations also contain Amphenol AMW-XLR-0002P microphone inputs for higher SPL audio events in addition to Kramer WP-580R HDBaseT twisted pair wall plates for 4K@60Hz HDMI signals. Finally, product presentations and video playback can be wirelessly streamed with the adoption of the Kramer VIA GO platform, which incorporates 1,024-bit encryption for secure use on the internal network.

Naturally, CCD did not want to incorporate any technology into the 8.23m-high ceiling that would distract from the exquisite chandeliers. Suspended on two Global Truss white supports running the width of the room, minimalist lighting fixtures match the ceiling's white finish in the form of 12 LED RGBW PAR cans and three LED moving heads. Located in the new control room, three Party 600 lighting controllers have been programmed to create varying lighting moods for each divisible section. Capable of storing up to 40 presets, the controllers can be operated via an iPad over the LAN network.



When the rooms are combined, one of two Nexo Geo M620 systems can cater for high SPL events

At the heart of the Dante networkable audio solution, three Yamaha TF1 digital consoles can provide dedicated mixing options for all varieties of functions. 'Having used an analogue board for so long, it seems so much simpler operating a digital control surface,' comments Pum. 'I think analogue operators are more professional, however, as they mix with their ears.'

The L-R ballrooms are only 0.25m and 0.5m shorter in width than the central room. When divided by the new acoustic partitions, these rooms can either rely on an L-R JBL two-way point source system or a ceiling speaker solution. Measuring

8.3m in height, the combined ballroom comprises 18 JBL 321CT coaxial models, 12 of which are flush-mounted into the corners. Clear speech intelligibility was one of the main requirements of the new design and, accordingly, six of the 250W-rated Control 321 CT's consistent 90° broadband pattern control ensured perfect coverage in each of the 263m² rooms.

When the three rooms are combined, one of two Nexo Geo M620 systems can be called on for live performances. Finished in white, six M620 cabinets are suspended as an array at the front of the central room, should clients prefer the stage to be viewed in landscape mode. Alternatively, the stage can be erected along the lateral wall of ballroom 3 when the audience is sat in portrait mode. The four Nexo NXAMP4x4 TD controllers not only power the two L-R Geo M620 arrays, they also store the DSP settings for the various room combinations.

Weighing under 10kg, each Nexo cabinet combines a single 6.5-inch woofer with a 1-inch HF driver married to wave source. Operating within a frequency response of 80Hz to 19kHz (±3dB), with a nominal peak SPL of 127dB, the standalone Geo M620 arrays are fixed into position courtesy of a fully integrated three-point rigging system.

A Dante network has been created from the source of the 12 wireless microphone channels of Shure QLXD to the Amphenol XLR inputs, the Yamaha TF1 consoles and the NXAMP4X4 amplifiers. Intel Craft created 70 preset configurations for all



Six Light Sky Moving Beam Spot LED moving heads are fixed to two Global Truss supports



Epson projectors and Grand View motorised screens provide confidence monitoring

manner of room functions adopting varying EQ settings. 'I am no longer fixed to the control room during an event and can control the entire Dante audio network from my iPad over Wi-Fi,' adds Pum. A Crestron CP3 processor has been integrated into the design for controlling all the AV and lighting parameters, including the lighting, LED wall and rear projectors.

Now marketed as being equipped with the latest AV facilities, the ballroom of Conrad Bangkok has come to life. 'I liked the old design, but now I realise how outdated it had become. It's a great feeling seeing this room grow up and come to life as we try out different configurations for events that we would never had staged before.' As clients return following the six months' downtime, the visitors' book is now awash with praise. But Pum and his colleagues realise that the hotel will never rest on its laurels with rapid changes in technology and cityscapes.

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Performance upgrade



The Wuliangye Chengdu Performing Arts Centre

The Chinese city of Chengdu has a new performing arts centre, underlining its emphasis on culture and arts in the region. **Sue Su** reports



L-R: David Wang and Tao Jianxin



A DiGiCo SD5 in the theatre's FOH position



IN LINE WITH ITS COMMITMENT TO DEVELOP LOCAL

culture, the Chengdu government has been striving to establish the city as a music capital in recent years. One of the most recent of a number of important cultural buildings to have been built is the Wuliangye Chengdu Performing Arts Centre in the new heart of the city. The project has already won some major awards, including architectural accolade the Li Bing Prize for Sichuan Civil Engineering, as well being named one of the Top Ten Chinese Theatres with Outstanding Sound Effects by the China Institute of Stage Design's audio committee.

The venue has a total construction area of about 99,000m², with five storeys above ground and two beneath. It is run by the Chengdu Boyang Damofang Performing Company, which has vast experience in staging large-scale sports and entertainment events and counts many industry veterans among its staff. When considering the venue's profit margins, the company made the bold decision to become the first indoor venue in northwestern China to install an L-Acoustics

K1 system, provided by Rightway Audio Consulting. And, according to the distributor's president, Tao Jianxin, it has set a new level of professionalism for the industry.

'Usually, the only theatres to be equipped with professional stage equipment have less than 3,000 seats,' he claims, adding that larger venues such as auditoriums and indoor arenas are generally not built as professional performance venues, and therefore don't provide complete lighting and sound equipment. The venue's acoustics were also designed in strict accordance with theatre standards.

David Wang, director of stage art at Chengdu Boyang, has the distinction of being one of the first K1 users in Asia. Wang previously worked for Taiwanese rental company, Reyn Yang Professional Sound, and is also the sound engineer for well-known actor and singer, Jam Hsiao. Despite his familiarity with the brand, he chose K1 for the new arts centre's day-to-day requirements rather than for any personal attachment.

'This is a venue with more than 10,000 seats,' he says. 'The distance from the stage to the last seat is nearly 100m,

and from time to time it will put on rock shows. So it needed speakers with a long throw and sufficient power, such as K1. Other speaker brands could have been supplied without any problems but, from the venue's business perspective, and according to our feedback, K1 is the system that's most accepted by rental companies and artists.'

The centre has 12,000 fixed seats and five auditorium levels distributed in a fan shape, with VIP rooms on the third and fourth floors. Twelve L-Acoustics K1 large-format WST line source cabinets have been flown on either side of the stage as the main L-R system, covering the first floor of the auditorium up to the VIP rooms on the fourth floor. Three K2 WST cabinets are hung below the K1 arrays as down-fill. Four Arcs II constant curvature WST elements have been installed on the stage lip to cover the first five rows of seats, while six Kara WST modular line source cabinets are stacked on both sides of the stage for side-fill. The subwoofer system consists of 12 stacks of two KS28s along the front of the stage. The fifth-floor auditorium at the top is covered by a delay

system of a row of 24 Kiva II ultra compact modular line source cabinets installed along a walkway in the roof of the venue. Onstage monitoring is provided by six X15 HiQs, and all speakers are driven and managed by L-Acoustics LA8 and LA-12X amplified controllers.

The sound system at the Wuliangye Chengdu Performing Arts Centre is a 'semi-fixed' installation that can be reconfigured to fit the ever-changing performances arriving at the venue. A large mobile L-Acoustics system, including 24 K2s and 48 Karas, can also be deployed as needed, and rented to visiting artists.

'Except for the position of the console and the Kiva II delay system, we have so far moved everything around for different performances,' explains Wang. 'In [well-known Chinese artist] Zhang Jie's 2018 concert, *Chengdu Station*, we added a third more speakers based on the original system

sent to the FOH console to be mixed from there. The venue differs from most Chinese theatres by having an open FOH position on the third floor of the auditorium, with a lift next to it for transporting equipment to the basement. 'This way is common in foreign countries but, in China, many theatres install the consoles in a control room,' says Rightway's Tao. 'Sometimes this is not good for audio engineers as they cannot hear the sound clearly in the room. And for those who bring in their own equipment, it is difficult for them to integrate their equipment into the control room, because it's all fixed. This open design can help engineers quickly bring their equipment up here and, at the same time, take the venue's equipment down to the basement, allowing the setup to be changed quickly.'

Owing to the trust that Wang has built up in Sennheiser's RF interference capabilities, he chose a 96-channel Sennheiser 2000



L-Acoustics K1 hangs have been flown on either side of the stage



design, because the show was sold out and his music is so dynamic.'

Wang also explained the rationale behind using Kiva II as a delay system. 'Our original idea was to use K1 to hit the last row of seats, so that the whole field can be covered by direct sound. But, as the sound pressure level went up, we found that too much reflection came back at the stage, so we decided to cover the venue in two parts. The current Kiva II delay system has been fine-tuned so that, when you listen to it, it is comfortable to hear, like a point source system.'

The venue is equipped with two DiGiCo SD5 consoles for FOH and monitor mixing, connected to two 56-in/48-out SD Rack stageboxes via an Optocore system. For smaller shows, monitor signals can also be

Series wireless microphone system, with all handheld mics equipped with DPA d:facto capsules. 'Sennheiser's wireless transmission and reception is very stable, and the 2000 Series is frequently used by rental companies, so it's very useful when it comes to meeting artists' requirements,' he says.

During the six-month construction period, the technical team took great care to ensure the finish of the venue was clean and streamlined, and this involved concealing large cable runs. A lot of effort was put into hiding cables in wiring ducts in the ceiling and underground, with the longest signal transmission distance more than 180m. Rightway provided full technical support for the project, supplying staff to assist with system design using L-Acoustics Soundvision prediction software as well as equipment installation and alignment, and additionally in the training process.

Dozens of different types of performances have already been staged in the centre. Wang reveals that an estimated 70% of performance groups are choosing not to bring their own systems but to rely on the venue's, allowing them to save on high equipment rental and transportation costs.

This is just one aspect of Wuliangye that sets it apart from the majority of large Chinese performance venues, and that will help the culture-focused city of Chengdu realise its goal of becoming a music capital.

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A 17.3m x 1.2m display is the main focus of the Exhibition Corridor



Cornered Audio C3 speakers and 75-inch displays were selected as AV outputs for the meeting rooms



The Showcase Stadium benefits from a Renkus-Heinz IC Live speaker system with dual 18-inch subwoofers

Smart banking

Sophisticated AV integration is at the heart of a new experience centre at the Bangkok headquarters of the Krung Thai Bank. **Richard Lawn** visits

IF YOU'RE OF A CERTAIN AGE, IT PROBABLY DOESN'T seem that long ago that customers queued up at the bank to pay in a cheque and withdraw cash. For years now, however, financial institutions have been navigating clientele towards websites and smartphones to do their banking, as local branches have dwindled.

It's not all decay and contraction, however, as certain banks reinvent themselves. Take a look, for example, at the Krung Thai Bank (KTB), which recently unveiled the Innovation Lab, an experience centre at its Bangkok headquarters. Here, multi-room functionality allows it to host numerous events against a dazzlingly futuristic backdrop of AV technology.

Having carved out a niche in Thailand as a specialist solutions provider of AV technology – including to the banking sector – Vichai Trading (1983) was called upon once again to assist KTB, a long-term client. Possibly inspired by science fiction, the interior designer of the Innovation Lab has created a futuristic setting as a launch pad for new technologies and services, the minimalist white fixtures offset by azure blue LED lighting.

'The challenge was to enhance the functionality of the overall space in the Innovation Lab through AV integration,' explains Vichai Trading's sales engineer and project manager, Phuriphat Sutthivanichkul. 'We have enjoyed a long-term relationship with KTB and they allowed us to design and install a flexible AV system in accordance with the interior designer.'

With just seven weeks to complete the task alongside all the other contractors, the Vichai team was also restricted to working non-banking hours of nights and weekends.

Central to the 3.5m-high open ceiling space is the Showcase Stadium. Here, an invited audience is seated in a small amphitheatre orientated towards a slightly raised stage area for product launches, presentations and announcements. The visual draw is undoubtedly the MP Tech 8m x 2.25m (WxH) 2.5mm pixel pitch LED display at the rear of the stage. Bypassing the requirement for an external scaler, two

Novastar VX4S LED display controllers provide functionality and processing in 1920x1200 at 60Hz resolution. Images originating from dual CVBS, dual VGA, DVI, HDMI, DP and SDI inputs can be zoomed point-to-point, and the system is configured via Touch Track, using a single knob and button.

Mirroring the minimalism of the Innovation Lab, the Vichai team adopted a similar design when creating the audio, lighting and video signal paths. A large inventory of unobtrusive iMAG Thunder encoders (LZ1501E), decoders (LZ1502D) and wireless receivers/transmitters (TH2002D) ensure image clarity from source to output. The Australian brand's IP control box (TH800DS) manages and configures these devices over the local area network (LAN) by automatically searching and displaying them all. Once located, it can import and export files from the Thunder Manager software to perform operations on encoders and decoders such as matrix switching and videowall processing.

Installed on the ceiling at the rear of the stadium, a Vaddio RoboTRAK system including a RoboSHOT camera serves as the main source for broadcasting events to the other rooms within the headquarters in addition to the outside world. Based on an IR tracking algorithm, a lanyard worn by the presenter allows the RoboTRAK and RoboSHOT camera to follow, bypassing the need for an operator. Fed into a Netgear M4300-48X 48-port 10GB PoE network switcher, additional inputs come in from two local HDMI connections together with two VC-A70H PTZ 4K UHD cameras.

The open plan, mezzanine Innovation Hub sits directly above the main second-floor banking reception area. Accordingly, noise pollution emitted during launches and other events had to be carefully considered. Given the restrictive ceiling height, vertical pattern control was paramount. Discreetly installed into the wall on either side of the main display, a pair of Renkus-Heinz ICL-F-RN speakers provide intelligible speech in this central zone. Comprising five 6.5-inch transducers and three 1-inch HF compression drivers within 1.2m-high

columns, the beams of the active speakers can be digitally controlled down to 800Hz, ensuring focused audio directivity towards the stadium's seats. Hidden from view within the wall, a pair of CF18S subwoofers extends the low frequencies down to 35Hz.

Audio sources include an inventory of Audio-Technica ATM610a handheld mics together with wireless ATW-3141b handheld and ATW-3110b cW bodypack transmitters. Inputs from the mics, together with a TASCAM SS-R100 MP3 player/recorder, are mixed on a Midas M32 40-input digital console in the rear control room, monitored via Tannoy Reveal 502 speakers. An Extron SMP 351 H.264 Streaming Media Processor captures and distributes the AV sources and presentations as recorded media or live streaming.

A Biamp Vocia PA system combines a DS-10 desk-mount microphone, VA-8600 digital networked multichannel amplifier and VI-6 audio input expansion unit to ensure full zonal reach. The signals – including an overriding evacuation panel – to the VA-8600 units are output via the LAN to the Tannoy CVS 4 ceiling speakers in the six zones (reception, exhibition area, meeting rooms, relaxation area, café lounge and toilets) in addition to the main building management services. Localised Lab.gruppen E-series 2:2 dual channel amplifiers power the CVS 4 speakers in these dispersed zones.



Biamp Devio SCR-20 conferencing microphones serve the meeting rooms



Eight 49-inch Philips screens combine as a visual display in the War Room

The outer wall of the Showcase Stadium integrates an eye-catching 17.3m-wide MP Tech curved 2mm pixel pitch LED. Measuring 1.2m in height, the display serves the Innovation Showcase exhibition zone directly behind, receiving its inputs from a concealed control room behind a display. Six Novastar VX4S LED display controllers were required to provide full functionality and processing for either combined or separate visual displays in the main AV wall. Content for this can be routed from either the iMAG AV systems or a number of BrightSign XT243 digital signage players. An additional four VX4S controllers serve the other four 2.4m x 1.2m MP Tech LED displays making up the showcase display in addition to a 75-inch Philips 4K UHD touchscreen in the exhibition area.

The main visual display in the adjacent War Room combines eight Philips 49-inch screens. The video signals are sourced from a PC via an Atlona AT-RON-442 4K HDR HDMI distribution amplifier, Linksys 16-port switcher and the standard iMAG Thunder encoders, decoders and wireless receivers and transmitters. The audio components here are equally unobtrusive and combine a Lab.gruppen Lucia 120 two-channel amplifier to power Cornered Audio C5 speakers. With a unique 90° triangular design, these speakers provide a discreet installation between the wall and ceiling. Negating the requirement for brackets with hidden cabling terminals, the 5.25-inch, two-way design allows the 4.1kg aluminium cabinets to be placed directly into the corners.

Two conferencing rooms on the opposite wall can be combined to seat up to 22 delegates. A Biamp Devio SCR-20 conferencing hub has been installed into both rooms, providing three 120° zones in each meeting space courtesy of ceiling-suspended, beam-tracking microphones. The computer-based conferencing includes a BYOD approach or connection via a dedicated in-room PC, while speaker connectivity options include HDMI inputs. The audio is catered for by Cornered Audio C3 4-inch speakers powered by Lab.gruppen E2:2 amplifiers.

Out of sight, the audio equipment has been neatly installed under the tables of each room, which are further equipped with Philips 75-inch HD screens. Visual conferencing has been enabled with wall-mounted cameras located underneath the screens focusing directly at delegate eye level. Similar setups have been created in three other meeting rooms.

FEATURES: INSTALLATION

Biamp TesiraForté VT DSP has been applied to the audio inputs of the five conference and meeting rooms, providing Acoustic Echo Cancellation (AEC) and Dante networking for up to eight channels of USB audio.

Ease of functionality has been provided with the integration of a fully programmed AMX control system. Configured from an iPad touchscreen, an AMX NX-4200 NetLink processor serves the Showcase Stadium via the LAN network switch.

The War Room, exhibition space and five meeting rooms all rely on NX-1200 controllers for their AV operations, using AMX MSD-701 7-inch or iOS touchscreens for AV management.

'Fortunately, this was not a retrofit, so working closely with other builders allowed us to create conduits under new raised-level flooring and in the ceiling,' explains Sutthivanichkul. The vast loudspeaker, lighting and Cat-6e cabling infrastructure was then routed throughout the various zones, terminating in the main and other distributed control rooms.

Following the mass withdrawal of contractors that had each completed their 50-day missions, the Showcase Stadium became the centre of media attention. Here, KTB president and CEO, Payong Srivaniich, announced the release of the Next mobile banking application at a launch event to highlight its features, including the ability to provide exchange services for up to 10 currencies. The event was given further illumination courtesy of the Philips Showline SL PAR 155 zoom luminaires. Presets are recalled from an Avolites Tiger Touch lighting controller in the rear control room, while Strand Lighting DMX512 six-way boosters provide DMX distribution.

Founded in 1966, KTB has been catapulted way into the 21st century thanks to the interior and AV design of the Innovation Lab. Alongside functionality, flexibility and aesthetics, future-proofing played an important role in this design. Judging by the last 50 years, no one can predict where banking or indeed AV will be in even 10 years' time. But, for now, this showcase will enhance the bank's credentials among its expanding online customer base.

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Raising standards



Avid S6 and Genelec 5.2.4 monitoring in the Dolby Atmos final mix studio



One of the two mirrored 5.1 rooms

Sue Su visits Zhejiang Radio and Television Group and finds out how it is raising the stakes in audio for broadcast in China

BACK IN 2011, INNOVATIVE MEDIA ORGANISATION

the Zhejiang Radio and Television Group (ZRTG), the fourth-largest TV network in China, began to invest in the construction of the Zhejiang International Film and Television Centre in the Xiaoshan District of Hangzhou. The first phase of the project, spanning a total area of 285,000m², incorporates three main zones: a core film and TV postproduction area; an independent film and TV production area; and a third area that provides shops, restaurants, banking, sports facilities and accommodation for staff.

The striking 218m-high film and TV production complex consists of two 42-storey buildings with an attached unit containing eight broadcast studios of varying sizes. This is where many popular Chinese TV shows, including *Sing! China* (previously *Voice of China*), *Running Man China* and *Sound of My Dream*, are produced.

ZRTG plays a leading role in audio production among domestic TV stations. In early 2012, it deployed a high-end sound system in the broadcasting studio for *Voice of China*, and ZRTG was also the first broadcaster to air musical variety shows in 5.1 surround sound. The postproduction system in the new building is mainly used for Zhejiang Satellite TV's large- and medium-sized musical variety shows. In addition to traditional formats like mono, stereo and 5.1, it also has a complete Dolby Atmos production flow to provide the format for OTT media platforms such as IPTV and iQiyi.

'Zhejiang Satellite TV was the first TV station in China to broadcast in 5.1, using it on *Voice of China*,' says Wu Xiaodong, director and sound engineer at the production centre's audio department. 'We have been exploring the technology surrounding multichannel broadcasting and needed to optimise our facilities when we built the new postproduction department. Based on our actual production experience, we felt that a system that facilitated a collaborative workflow would be the most efficient for our use.'

The audio postproduction facility includes a Dolby Atmos final mix studio, two 5.1 surround sound studios, a music library, a dialogue studio, a critical listening room and a small voiceover studio. All studios are connected to Avid's



L-R: DMT's Johnathan Wang and ZRTG's Wu Xiaodong

Nexis storage platform to facilitate a collaborative workflow, and all run industry-standard DAW software such as Avid Pro Tools and Media Composer.

The project was executed in conjunction with Digital Media Technology (DMT), which has been ZRTG's partner for around a decade and has extensive experience in film and TV system integration. 'TV production is now very similar to working on movies,' says DMT's technical director, Johnathan Wang. 'A lot of people working in different studios are needed to complete the productions. Avid's networking features are geared towards this: Pro Tools is the audio production standard and, together with Media Composer software and Nexis storage, it provides a complete audio and video production system.'

The 80m² Dolby Atmos studio can handle all aspects of large-format TV production in addition to Dolby Atmos. It is equipped with an Avid S6 M40 24-9-D control surface, two Pro Tools HDX2 rigs and a Pro Tools HDX3. These are equipped with a number of interfaces including two DAD DX32s and an AX32, plus an Avid HD I/O 8x8x8 to provide analogue, MADI, AES and Dante compatibility.

'The S6 M40 allows two people to work simultaneously on its two work surfaces,' continues Wang. 'This is ideal for large-scale productions and Dolby Atmos mixes that draw on a large number of audio sources.'

The 5.2.4 monitoring system consists of five Genelec 1238A SAM surround speakers with two Genelec 7270A SAM subs and four Genelec 8240A SAM overheads. There is also a pair of PMC twotwo.8 reference monitors. The studio is also equipped with a Dolby DP580 decoder, Universal Audio UAD-2 Satellite Thunderbolt Octo Ultimate 4 DSP accelerator, a TC Electronic Music 6000 MkII DSP unit and a Heritage Audio OST-10 500-Series enclosure.

Two mirrored 5.1 surround sound studios can also be used for Dolby Atmos mixes by adding overhead monitors. Both have recording areas of 39m², with 25m² control rooms. The 5.1 systems consist of five Genelec 1038CFs with a 7071A sub. The reference monitor system is a pair of Genelec 8040As.

Again, an Avid S6 M40 is the console of choice, with Pro Tools HDX2 rigs, a DAD AX32, an Avid HD I/O 16x16 Digital interface, RTW TM9s and Sonifex RB-HD6 headphone splitters with a Sonifex RB-UL4 unbalanced-balanced converter.

The dialogue studio's 10m² control room has been installed with a pair of Genelec 1032Bs used for stereo monitoring, and this room has an Avid S3 control surface, a Pro Tools HDX system, a Universal Audio 4-710d four-channel mic preamp and Avid HD I/O 8x8x8 connectors. A smaller voiceover studio has been installed with a Yamaha DM1000VCM console and RME sound card.

The 36m² music library for the storage and archiving of musical content is equipped with a Pro Tools HDX system, an Avid HD I/O 8x8x8 interface and a 5.1 monitoring system consisting of five Genelec 8010As and a 7060B sub. A Sound-Ideas royalty-free music collection on a hard drive shares audio material and media resources to various audio production systems through the broadcaster's intranet service, and is managed by Soundminer to seamlessly integrate with Pro Tools.

The 42m² critical listening room emulates a residential environment to evaluate the audio quality of programmes being watched at home. Here, the Dolby Atmos monitoring system consists of five KRK RP8G5s for surround, a 12sHO sub and four RP5G3 overheads. Other devices include a TASCAM CD player, Philips Blu-ray player and IPTV and iQiyi TV set-top box. 'Surround sound and Dolby Atmos



Small voiceover studio with a Yamaha DM1000VCM console

broadcasts are made for normal audiences, so the sound engineer needs to know what they will sound like at home,' says Wu. 'We've built a Dolby Atmos system for home, so that if any problems are discovered, the sound engineers can fix it in the studio next door. We've always wanted to have a room for doing this.'

Microphones throughout the facility include DPA and Schoeps surround sound models, as well as classic vocal microphones such as Neumann M149 Tubes, Brauner Phantom-Vs and Manley reference gold mics.

In addition to the postproduction studios in the main building, the adjacent building contains eight broadcasting studios, giving a total of four control rooms and a Dolby Atmos live production studio. These broadcast studios use the same networked

and collaborative workflow system as the postproduction studios. The comprehensive facility is completed with the addition of an OB van said to be the largest in the world. (See our video of ZRTG's OB van at www.proavl-asia.com/details/61246-inside-the-world-039-s-largest-audio-ob-vehicle)

The careful planning of ZRTG's postproduction requirements has resulted in a new facility that runs smoothly. A large part of its efficiency is down to the fact that ZRTG had already created a demand for sophisticated broadcast productions, and its new postproduction studios should ensure that these high standards endure.

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The future's orange

Genelec custom monitors form the backbone of a new postproduction facility at the Avex headquarters in Tokyo. **Caroline Moss** reports



Temporary broadcast studio for the A-Nation festival



Avex's Yasuhiro Okada

THE AVEX BUILDING RISES LIKE A LANDMARK FROM

Aoyama, central Tokyo. Built before height restrictions came into effect in that part of the city, the purpose-built, 18-storey tower, which the company moved into in 2017, coincides with Avex's internal restructuring, and a concerted push into the world of virtual reality.

Avex – which stands for 'audio visual expert' – was set up in 1973 as a CD wholesaler. By 1990, with investment from the Mitsubishi Group, the company was opening a recording studio and creating a record label of its own. Avex has continued to expand and diversify into areas such as events organisation and venue management. Today, around 200 artists are represented across Avex's record label, management company and live division. And the move to the new building has facilitated the company's progress.

'We wanted to transform Avex into a company that would produce innovation at a higher degree than in the past,' explains Avex group executive, Shinsuke Kato. 'We realised we had to encourage active collaboration both inside and outside the company.'

Part of that collaboration policy has included the installation of in-house audio and rehearsal facilities on the fourth floor of the new building. 'By having an in-house audio studio, you reduce the physical distance between management on one side, and A&R people and artists on the other, making it easier for everyone to meet and confer,' says Avex group administrative division general manager, Tomoyuki Murayama.

The newly equipped postproduction room on the fourth floor has been set up to promote Avex's entry into virtual reality and immersive experience, which began in earnest four years ago. This room has a 7.4.2 setup comprising seven Genelec 8350 SAM monitors with four 8340 SAMs and two 7360 SAM studio subwoofers. The bright orange, customised finish of the 8350s – RAL 2008 to be precise – was chosen by Yasuhiro Okada, chief producer/recording engineer at Avex Entertainment.



Okada works in the box in Pro Tools

Okada joined Avex from the Japan Victor Company 22 years ago, and he's worked as an A&R manager, producer and engineer over the course of his almost three-decade career. This is the first time he's used Genelec speakers, and the decision to install them in the new room was largely based on the brand's reputation in the field of immersive audio, with the added advantage of the SAM range's GLM (Genelec Loudspeaker Manager) function. This allows configuration, calibration and control of speaker systems, optimising performance in individual acoustic environments. Using the software, Okada designed the room himself, in conjunction with acoustic design company, Sonar.

'Using the presets in the GLM software, it's very easy to switch between formats, for example, from 5.1 to 7.1,' he explains. 'The audio imaging is so good with these monitors that you can hear where each instrument is very clearly, and that's vital for working in immersive audio formats.'

The postproduction studio is also installed with a Pro Tools rig and an Avid MTRX audio interface. 'I do most of the audio work in the box in Pro Tools, using Mackie's Big Knob Passive

monitor controller, and I connect to the Dolby Atmos encoder with MADI,' he says, adding that he also uses Adobe After Effects video software for his VR work. Microphones are of vital importance at Avex to get as high-quality source material as possible, and the facility uses a selection of the classics: Neumann U47 FET condensers and U87Ai studio mics, Electro-Voice RE20 voiceover models and Sony C-800G studio tube condenser mics.

Learning to mix in immersive sound is a learning curve, even for an engineer of Okada's great experience. Before the new studio was ready, he worked on developing his first mixes for Dolby Atmos-enabled headphones. 'With headphone mixes, we try to emphasise what's coming from the top but, with our new setup, the emphasis has shifted to the front channels,' he says. 'One thing that you have to be aware of with live recording is to determine where the listener is situated. For example, if the listener is right in front of the stage, they would hear the vocals very clearly but it's difficult to get the overall sound, whereas if they are at the back, the vocal becomes smaller and there's more of an overall feeling of the performance. So the microphone positions are crucial. You absolutely can't make a mistake when it comes to positioning the microphones as you don't get a chance to redo it.'

All content that arrives in the postproduction studio comes from projects carried out in Avex's in-house facilities, including a virtual reality motion capture studio in the new building. Avex has targetted the consumer market by offering VR content as a mobile phone app, viewable with special disposable glasses, which was downloaded 650,000 times. Live concerts play an increasing role, and a recent project was an immersive audio broadcast of the Live Nation festival, A-Nation, featuring popular artists signed to Avex. Okada mixed the concert from a temporary broadcast studio that had been created in a truck, installed with a Genelec 5.1.4 monitoring system comprised of 8030s, with a 7360A subwoofer. The concert was broadcast live from Ajinomoto Stadium using infrastructure provided by Japan's largest mobile operator,



In the virtual reality motion capture studio

NTT DoCoMo's, with a 5.1.4 mix created in the truck for home broadcast and a 7.1.4 mix for theatres.

'Right now, not that many people have the ability to tune into this format at home, but the market is getting ready for it,' says Okada, who's been consulting with Sony to develop new home broadcast entertainment systems, including a solution for the corporation's new Bravia 4K television. 'Japan has just started broadcasting in 4K and 8K and we are working on supplying content for broadcast in the new formats.'

This process should be expedited by two major forthcoming sporting events in Japan: the Rugby World Cup 2019 and the

2020 Summer Olympics. National broadcaster NHK started broadcasting in 8K last December, although, for now, most consumers will only be able to view 8K 22.2 broadcasts in special theatres and public viewing areas.

As Japan pushes the envelope when it comes to the latest in broadcast standards and dives headfirst into VR and immersive audio, Avex is already in a good position to lead the way with its new in-house facilities.

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Massey house engineer Toby Lloyd at the controls of the Neve VSX
Image courtesy of Victor Naveira at The Granary Post Production

Raising the bar

Massey University's School of Music and Creative Media Production has a new facility offering postproduction and music studios, plus a 7.1 dubbing theatre, at its Wellington Campus. **Caroline Moss** reports

PETER JACKSON'S BLOCKBUSTING LORD OF THE RINGS trilogy, not to mention *King Kong* and *The Hobbit* trilogy have put New Zealand on the map as a sought-after filming location. The Jackson effect is pronounced in Wellington, where his Weta film and TV production facilities are based. Most recently, it has spread to Massey University, which has upgraded its music facilities to offer a commercial, world-class recording and performance facility and teaching university.

The university's School of Music and Creative Media Production was established in 2015 by associate professor, Andre Ktori, who arrived from the UK to work at the College of Creative Arts. The school teaches a Bachelor of Commercial

Music with majors in music practice, music technology (pathways in sound engineering and music software and hardware) and music industry skills. The school also delivers a Bachelor of Creative Media Production with pathways in film and TV, gaming, VFX and animation, directing and producing and creative technologies, and established a Masters of Creative Enterprise in 2018.

'When the university's College of Creative Arts embarked on this ambitious project, the aim was to build a world-class sound recording facility that would place our students in a professional environment from day one,' says James Coyle, technical services manager at the School of Music and



An Audient ASP8024 in the teaching control room
Image courtesy of Virginia Ghiglione



The dubbing theatre with an Avid S6
Image courtesy of Virginia Ghiglione

Creative Media Production. 'It was important to the university to have the spaces and equipment to contribute to the buoyant New Zealand music industry as well as the very strong film, television and gaming sectors.'

Renowned UK consultancy Munro Acoustics was approached back in 2014 to develop an outline design under a brief from Ktori, founder and now head of the new school. 'Andre knew our work from a previous project at the University of Wales and also from the many recording studios we have designed around the world,' says acoustic consultant and company director, Andy Munro. 'That initial feasibility study led to my visit to the site and a presentation at Massey School of Music in November 2015.'

The brief involved transforming a large, existing building originally designed for heavy engineering work. Featuring dense concrete walls, the structure hadn't been built with earthquakes in mind, so before work even started, a steel collar had to be retrofitted to the building in order to comply with today's building regulations. As the project progressed, further work required collaboration with the structural

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engineers and architects to overcome conflicting requirements, one for vibration isolation through separation and 'floating' rooms and the other for ultimate strength and integrity.

In November 2015, Munro visited Massey to stress the importance of the acoustic and technical performance of each room, with all other design aspects aligned with that primary aim. Nothing had ever been built like this in the region before, and Munro demonstrated that the top-end studios they'd specified, unlike simple, classroom-type spaces, would require a high degree of professional input.

'At the time, we were working on the BBC's New Broadcasting House as well as a new film and music mix theatre at Abbey Road, next to the historic Studio 2, for which the isolation had to be perfect,' he explains. 'So I had some relevant, current projects to show them. In March 2016, we were officially appointed to design the studios, by which time we'd done quite a lot of the preliminary design work and worked closely with the architect, Athfields, who were very good and helpful. It was a first for them, and one of the biggest technical education projects they'd handled.'

In order to achieve the required performance, a detailed analysis of all the rooms was carried out for each space, including background noise, reverberation and, where appropriate, design of the monitor systems and Dolby cinema sound requirements. These were submitted with a full set of design details. Acoustic panels were designed specifically for the project and built locally by the main contractor. Weekly online team meetings were held, which could be challenging due to the 12-hour time difference between Europe and New Zealand, but were vital in conveying anything that might affect the final performance.

'Throughout the project, Munro Acoustics worked closely with Athfields, so they could incorporate our design into their overall vision for the building,' explains Munro. 'I would say the bulk of our design involvement and cooperation was through their design team.'

The final design set out three distinct zones or clusters inside the renovated building. On the ground floor, cluster one – at 500m² the largest space – comprises a 225m² recording studio with a 1.5s reverb time and space for an orchestra and technical rigging for broadcast applications. Two control rooms, each with separate overdubbing rooms, open onto the studio, and have been installed with a 72-channel Neve VXS analogue console and 48-channel SSL Duality, respectively, with Avid HD I/O converters. There is a huge range of outboard equipment in both control rooms, including AMS Neve 1073DPX, Chandler TG2, Focusrite and API 512c mic preamps; GML 8200, Buzz REQ2.2, Chandler Curve Bender TG12345 and Pultec EQP-



The SSL Duality control room

Image courtesy of Victor Naveira at The Granary Post Production

IA3 equalisers; a range of dynamic units from Crane Song, API, Manley, Universal Audio, Teletronix, Empirical Labs and Drawmer; Lexicon, Eventide and Bricasti stereo effects units; and Genelec 8351A nearfield monitoring.

As well as acting as an acoustic consultant for Massey, Munro Acoustics also custom-built the main monitors for these two control rooms as well as for the main control room in cluster two and the mix theatre. 'The university required a level of consistency in the sound throughout the project,' says Munro. Main monitoring in both control rooms in cluster one are 5.1 systems comprising Dynaudio M4 monitors with custom M4 subs – the same systems that can be found in leading London studios including Abbey Road and Air.

Cluster two on the first floor is a conventional, self-contained music studio complex. In common with all the facilities, this has a control room large enough to accommodate students and lecturers. 'Each control room has numerous studios attached to it, which means students can work in studios without using the control room and vice versa, but that also means that all the isolation between all of the control rooms has to be really good as everyone is working on different projects,' explains Munro. 'So, in some respects, the level of isolation is probably the highest we've ever provided. It's a heavily engineered project and one of the most complicated we've ever done.'

This teaching control room has been installed with a 24-channel Audient ASP8024 console, another comprehensive array of outboard equipment and a 5.1 Dynaudio M3/M10 system. Two main recording areas are attached to the control room of cluster two, together with several booths for different activities, and three further teaching control rooms are also installed with Audient ASP8024s, while a Mac lab features 25 Audient ID22 audio interfaces.

Also on the first floor, cluster three is a dedicated audio postproduction theatre with Dolby certification and ancillary

FEATURES: RECORDING

ADR. Pride of place in the 30-seat dubbing theatre is a 48-fader Avid S6 console, and here the speakers are the film version of the M3, the M3F film monitors in a 7.1 configuration with MA15 surrounds and custom subwoofer. 'These are similar to installations that we've done at Shepperton and Pinewood film studios in the UK,' explains Munro. 'Because you're working further away from the loudspeakers, a more directional sound is required.' A 4K Canon projector has been installed into the theatre to cater for the school's 4K film and TV workflow standard.

A second dubbing suite has been installed with an Avid Icon console and a Genelec 5.1 system with 8050 monitors and 7271 subwoofer. Six 4K postproduction edit suites in cluster three have been equipped with iMac pro computers with HP DreamColour displays, Da Vinci Resolve colour correction software, visual effects and audio postproduction software and mastering panels.

Massey University now offers a world-class teaching facility for music technology and creative media production, which any student would be keen to attend, as well as adding more cutting-edge commercial studios to this creative region. Additionally, in keeping with the university's brief to provide a commercial facility, the studios have been used for film scoring and recording by a number of clients including New Zealand mastering engineer, Mike Gibson; orchestra engineer, Graham Kennedy; dub roots reggae band, Salmonella Dub; and music collective, Congress of Animals.

'The project was a bold concept, with music studios modelled on the best in the world and mixing and postproduction facilities on a par with anything that can be expected of a top facilities company,' concludes Munro. 'The sound systems we designed and provided for the music facilities are the same as at Abbey Road and Air studios, where some of the most famous and demanding recordings have been made for decades. I cannot think of any music school that is better in this respect. The two performance spaces are exceptional in their flexibility for both recording and live performance.'

'Andre Ktori had the vision to carry this project through with as little compromise of the original concept as was reasonably possible. The use of traditional analogue technology alongside digital and electronic hardware is what makes good sound really work and that is what aspiring musicians, producers and tech students will learn to appreciate.'

With the arrival of Massey's new facility, it seems Peter Jackson is not the only one raising the bar in Wellington.

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First-class post

Post House in Mumbai has opened a new Dolby Atmos studio and 5.1 room, both Genelec-equipped. **Caroline Moss** visits

TWO YEARS AGO, POST HOUSE WAS SET UP IN THE CREATIVE

enclave of Andheri West to be a one-stop film postproduction facility, offering a Dolby Atmos sound stage, a colour grading room and an ADR suite that doubles as a music studio. In 2018, more space was acquired in the building it occupies, allowing the facility to add a smaller Dolby Atmos mix room and 5.1 studio. Like the existing ADR/music studio, both new facilities have been equipped with Genelec monitoring, supplied by Indian distributor, Sound Team.

'We started off with the three facilities on the ground floor, then added a basement facility offering a chroma shoot floor, with video edit suites and the two new audio studios,' says sound designer, Kartik Kulkarni, a graduate of SAE who went on to study sound design for visual media at a Vancouver university.

The new Dolby Atmos mix room was designed by re-recording and film mixer, Ajay Kumar PB, who has created a number of mix rooms. 'For most of the places I've designed – which are mainly 5.1 rooms – I felt that the sound of Genelec would translate well into the cinemas, especially in the mid-range,' he explains. 'The power of the Genelec speakers is very good, and we also chose them for the GLM [Genelec Loudspeaker Manager] software.'

Due to the typically low ceiling heights and size ratios of most Mumbai studios, it can be tricky to create the ideal proportions for film mixing. 'It's difficult to get a room that has the proper dimensions for Dolby because of these limitations; you are having to compromise somewhere,' continues Kumar, pointing to the ceiling height in the new Dolby Atmos room, which he says should ideally be a foot or so higher. 'If I use more acoustic treatment, I lose more space. So with the help of Genelec GLM, I can correct any problems in the room.'

Most films being mixed at Post House in Dolby Atmos are now started off in this room. Here, procedures such as



Kartik Kulkarni, Ajay Kumar PB (seated) and Subir Das

dialogue levelling, Foley, reverb and music premixing are carried out, before being transferred to the sound stage for completion. This has greatly enhanced the flexibility of Post House.

'Before we had this room, we'd go straight into the Dolby Atmos sound stage,' says Kumar. 'Around 300–400 hours of work are needed for a Dolby Atmos film, so if it's all being done in the sound stage, it's not the most efficient use of the facility. You can do up to 50% of the preproduction in a small room. I can also use it for meetings with creative directors, to go over certain scenes.'

Although many Bollywood films are now being released in Dolby Atmos, the new room also means Post House can handle an increasing amount of content for streaming. 'Not just films, but also content for services such as Netflix is now being created in Atmos,' says Kulkarni. 'A big advantage of this room is we can work on a lot of web-based content here. We don't need to go into the big Atmos mix room. We

have a screen and also a TV monitor, so we can change the type of calibration depending on what visual media we are using.'

The room, which is a 7.1.4 format, has been installed with Genelec 8350A SAM studio monitors for the L-C-R screen channels, four 8340As as surrounds, four 8320s for overhead channels and a 7271A subwoofer. The 16-channel Avid Icon D-Control control surface is a smaller version of the one in the Atmos mix room, making the transfer of projects an easy business.

By now, the Post House engineers are getting used to working with Dolby Atmos. 'We've fitted the format into our working style,' says Kulkarni. 'It's about how sound is reacting in the room, and that is something you learn over time. As a sound designer, I'll design the whole soundtrack then, when we are in the premix stage, we start to decide where we'll position the sounds.'

'The best part about working with Atmos is it gives you more precisely aligned speakers,' adds Kumar. 'Transition from one Atmos room to another is much better than from one 5.1 room to another. There's a better response and dynamic range, and you can create a 360° sound. However, you don't need to use it for the entire film. It should be used correctly, like a tool. You need separation and space in the mix, and it takes time and experience. Sometimes I will try something, decide it doesn't work and go back to the original.'

The new 5.1 editing room has also been installed with a Genelec system – L-C-R 8020As with 8010A surrounds and a 7050B subwoofer – further enhancing the flexibility and creative options of this ever-expanding facility.

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A letter from America



Dan Daley asks, are trade shows too big to fail?

AFTER GETTING BACK A FEW WEEKS AGO

from the Winter NAMM Show in Anaheim, it occurred to me that in three days on the ground there I had virtually never left the confines of the new North Hall, now the home of the expo's pro audio exhibits and demos. I didn't have to – NAMM had conveniently put them all together for me over two floors comprising 18,580m² – nor could I if I wanted to; the whole show has become such a sprawl that one moves between them at the risk of lowered productivity. It's like having a commute within a commute – after getting from the hotel to the convention centre, you have to account for the time it takes to move between the five huge halls in the main building, as well as to the various panels and product demonstrations taking place in the adjacent Hilton and Marriott hotel complex.

On one hand, the scope of the pro audio expo itself has come to approximate the

size of the AES Show's expo back in the early 1990s, when music production was at the top of its game, with £350,000 battleship consoles sitting on the show floor. But if you wanted to see everything in all the halls plus some key parts of the panel programme (which was cut back a bit this year after complaints it was too vast and overlapping last year), it would have still required the better part of an entire week to take it all in.

Winter NAMM and a few other shows, notably InfoComm, which has become the new nexus for large-scale live sound systems, and the NAB, which has come to encompass streaming as well as broadcasting, have become massive shows; ecosystems in their own right. And like the industries they represent, these shows are growing by a kind of expo-osmosis, assimilating smaller ones, as InfoComm did with the NSCA event a decade ago, NAB did with the CCW and

SatCom expos in 2013, and NAMM is (unofficially but apparently) doing with AES.

None of these three shows, all of which prominently feature pro audio elements, are in danger of becoming too big to fail, to borrow a description of banks from the Great Recession of a decade ago. Their expanded girths are due in part to strategic calculations on the part of their directors but also to natural dynamics, as they mimic the accelerating M&A consolidations of the manufacturers and developers that are their constituencies. But do they run the risk of becoming overwhelmingly big? Even segmenting their offerings within the show campus, as NAMM has done with pro audio in the North Hall, creates artificial boundaries at a time when the lines between the show's various constituencies are becoming almost non-existent: musicians are their own producers and engineers now, it's just they also create their own back-end business infrastructures.

Not surprisingly, smaller, more manageable events have sprouted in recent years, attracting subsets of the big show audiences, such as Sweetwater's GearFest, and sector-specific events, such as expos focused on wireless systems, put on by other large retailers. We're also seeing vertically integrated manufacturers opening their own 'experience centres', such as the one Harman Pro has in Northridge, California.

Pro audio, across all of its verticals covered by the major traditional trade shows, has reached a point where we naturally seek out more bite-sized ways to consume it. The big shows aren't likely to go away anytime soon, but smaller expos will continue to gain in number and popularity, as a kind of grout in between the bricks of the big shows. Until, perhaps, they someday become the big shows themselves.

A letter from Europe



Phil Ward explores the contradiction that historically pro audio events get bad audio. Can Nexö break the cycle?

IT'S NOT JUST FILM STARS WHO WIN

awards. At this time of year, not a week goes by without a glittering array of Oscar winners, BAFTA beneficiaries, Brits champions and Olivier receivers on the TV, but at the TPI Awards – that's Total Production International, with a small 'i' at the end because this is a show for lower cases than Olivia Colman on the whole – they give out gongs for everything from parking a truck backwards to most vegan sandwich backstage.

The sight of a roadie in a tux is one to behold, especially when all the refreshments are really beginning to take hold. But the evening begins with a familiar comedian from television, acting as host, attempting to engage a well-fed audience ahead of the usual envelope fiddling and lists of nominees. This doesn't work quite so well when the familiar comedian from television delivers familiar material from television,

sounding a note of indifference that seems to continue into the night.

This is rather sad, on occasion. Years ago, the precursor to these awards – the Live Awards – was presented by legendary cockney rock poet, Ian Dury, an excellent choice under normal circumstances but, that particular year, Ian was wilfully and courageously repaying a debt he felt he owed to the industry that had supported him right up to this point – at which, probably too few were aware on the night, he was gravely ill. His voice struggled to compete with the incessant babble from all the tables and, by the end of the evening, he was helped off stage to a ripple of enthusiasm sidetracked and muted by two hours of heavy drinking.

Nevertheless, every year since, the invisible section of the industry that is often, ironically, found in hi vis jackets gets its night out and its moment in the spotlights that normally keep them busy elsewhere.

Indeed, there is a major production underway to make this happen, this year ably supported by French loudspeaker pioneer Nexö; a production that faces the challenges of competitive sniping, last-minute goalpost moving and the weird, well-established assumption that all pro audio events get bad audio. Nexö appears to be quashing that assumption, but it goes back a long way.

It tends to be most true at industry social events and parties, rather than awards ceremonies. Usually any trade show that has already gathered several hundred thirsty sales executives, sound engineers and managing directors – a highly flammable cocktail – into a city that is foreign to most of them will afford at least two or three evenings in the company of Leading Brand X at a venue most likely co-opted from the installation portfolio or, as in the case of EAW in New York one time, a club scheduled

for demolition the following day. Genuinely, actually, awaiting the wrecking ball at dawn.

Live onstage will be one of the following attractions: a credible band well known in the 1970s yet scaled down into an acoustic package in order to (a) emphasise their rootsy, down-home authenticity and (b) keep the costs down; an ensemble of students from the local music college; or a hastily cobbled show band orchestrated by a chipper sales executive who used to be in a heavy metal combo and still has five guitars.

And despite the powerful draw these options will exert upon delegates a long way from home and completely at a loose end, thereby ensuring a pretty good turnout, it will universally sound awful. Not because of the musicianship, I hasten to add, but precisely because all the people who should be looking after the PA are at the bar instead. On these occasions, no awards are handed out.



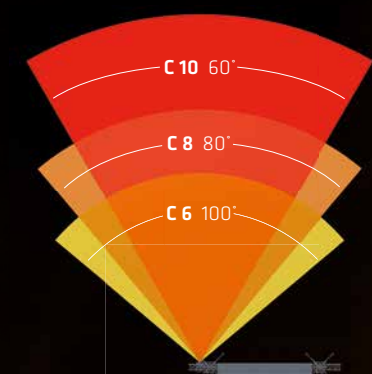
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A warm UNiKA welcome from international sales teamsters Hera Hua and Nina Chang



The UNiKA factories

Hidden identity

Championing consistency and reliability, **Richard Lawn** pays a visit to the industrious Taiwanese manufacturer that is UNiKA

WHAT'S IN A NAME? WHILE SUPPLYING TO A GROWING

OEM customer base of manufacturers and production companies across the world over the past three decades, the Taiwanese audio manufacturer, UNiKA, has recently been quietly pursuing its own brand credentials. However, it was not a case of being lost in translation when audio engineer KC Hwa first christened his fledgling company with this rather ambiguous brand name.

'Soon after we began the company in 1985, I created a karaoke unit for a friend who called it a Universal Karaoke – or UNiKA for short,' recalls Hwa. 'As this sounded unique, the name stuck and became our brand.' The association with 'unique', 'exceptional' and 'extraordinary' continues.

The decision to enter audio manufacturing at a point in time when Taiwan's electronics industry was competing with the other tigers in the Asia Pacific region was somewhat astute. A commitment to engineering, R&D, quality control and precision assembly has served it well – perhaps too well.

'UNiKA is first and foremost an engineering company,' attests international sales manager, Nina Chang. 'We've built a strong customer base over the years owing to the consistency and reliability of our products. Perhaps being renowned as bulletproof is a disadvantage as the need to replace our amplifiers or other audio equipment is rare,' furthers Chang with a grin. 'Our customer isn't someone who needs to replace a failing product with another, so we must be doing something right.'

Innovation and quality engineering aren't accolades that can be merited via a marketing campaign. Such labels can only be earned over time and, as such, word-of-mouth endorsements count for everything; however, they take long periods of time to drip feed through. To date, UNiKA's catalogue comprises power conditioners, crossovers, equalisers, mixers and DI boxes. However, capturing 80% of its turnover, it is its power amplifier design that keeps bringing customers back. The bestselling A-series has been the biggest contributor to the order book for over 12 years and



UNiKA founder KC Hwa

shows no signs of decelerating. Both the 2U and 3U height A-series amplifiers are modest in design and vary in output between 250–2,000W per channel, but you'd be hard pressed to identify any notable price-performance features that make it stand out against any other in the market. But perhaps that is UNiKA's success in a nutshell – quietly performing in the background, drawing no attention to itself.

'We believe that the R&D and production team's ability is also among the best in Taiwan,' testifies technical director, Albert Su. 'The products that we develop and manufacture are deeply respected by overseas customers. For our part, we have listened to our customers sufficiently over the years to improve our designs and push ourselves further. In addition, we only source and purchase the best components and materials for our products.'

Following expansion, UNiKA relocated to its current office and headquarters in Taipei's Nei-Hu district in 2003. The sixth-floor facility is a hive of enthusiastic and passionate R&D engineers and developers working alongside the sales and administration departments. In total, some 20 employees are based here, including 12 software and hardware engineers.

A vast demonstration and performance room serves as a showcase for the company's technologies as well as several brands that it has taken distribution rights for in Taiwan over the years, including B&C Speakers and SCR capacitors.

'Prior to 2015, this facility was bursting at the seams,' says Chang. The decision to relocate production to a branch factory in Maioli has served the manufacturer well. Located north of Taichung in a more rural setting, over 50 employees are based at the 6,600m² facility, which currently operates two production lines. With a capacity to manufacture up to 3,000 amplifiers each month, experience in manufacture cannot be substituted when prioritising production.

'UNiKA builds stock according to forecasts and demands, and, over the years, this has been quite consistent,' says Su. Staying true to its roots, 60% of the incoming parts are sourced from local Taiwan or Taiwanese-branded Chinese suppliers, with the remaining 40% coming from more renowned European and US imports.

Consistency is a word that comes up again and again during the interview. It's no coincidence: consistency in manufacture equates to a consistency in parts, personnel and design. 'We're not in the fashion industry here,' continues Su. 'Some may call it dull, but our customers purchase UNiKA products as they simply fix them on a rack for 10 years in the knowledge that they should never need to return them again.'

Production steadily grows and the two production lines in operation will soon be joined by a third. While each workstation has an operator setup, strict quality control from all its Taiwanese incoming suppliers ensures that consistency is maintained. Audio Precision test and measurement equipment is standard for checking semi-finished boards and finished goods.

'We are both passive and conservative by nature and, as a result, we've always been more engineering focused than marketing orientated,' confirms international sales manager, Hera Hua. A tour of the facility would confirm that – quietly industrious, without anything showy or glistening to grab the

eye. When *Pro AVL Asia* visited the demonstration room, it was being used for testing and could possibly benefit from a spring clean if it is to impress visitors in future. But that's the allure of UNiKA. It's an honest, hardworking manufacturer that understands the road upon which it has travelled and, more importantly, can chart a course as to where it is heading.

The bulk of UNiKA's products are bound for markets such as India and Latin America. Was there some rationale behind this, or a fluent Spanish-speaking representative who flew the UNiKA flag far and wide? 'No – they either heard about our reputation or found our website before contacting us at some point,' confirms Su. 'Primarily, our customers require electronics that provide stability and reliability at an affordable price point.' UNiKA's proven OEM capabilities have placed it in good stead. 'We have been creating power conditioners and sequencers for many years for other well-known brands. We are happy to educate those markets where the electricity supply is unstable and prone to surges and spikes, so there's a trust factor that builds up over time.'

For now, product development revolves around Dante networking. 'Our sales continue to rise, but we cannot be complacent, so the team here is working hard on future product development,' confirms Su.

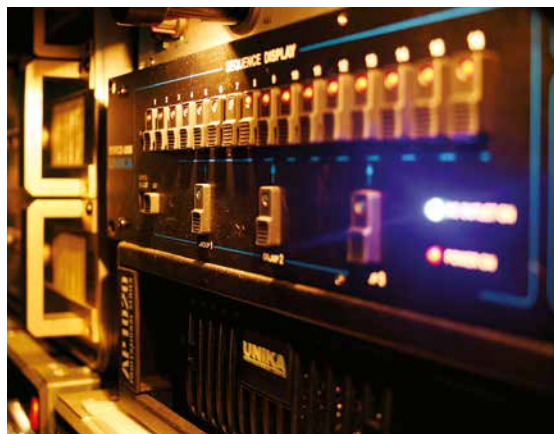
'We've been working with Audinate now for around five years. At the same time, we recruited expertise to develop our own DSP platform. It was a challenging exercise to transition to digital, but there's no point working with Audinate if you wholly remain within the analogue domain.'

UNiKA has confirmed its attendance on the Dante network with the development of the NBB-1616 and associated NBB-04 networked break-in/out boxes.

Having bridged the great A-D divide, UNiKA appears to have removed its water wings for full immersion in the digital deep. The recently unveiled higher scale of Dante products with a user interface gives a whole new appearance to the product line in order to create a fixed visual identity.



The UNiKA showroom and demonstration area with a line of its classic products



'As an audio manufacturer, we can no longer exclusively exist within the traditional audio environment, so, with our amplification expertise, we are aiming to create a range of products that suit themselves to this network,' explains Su. Although he could not share his designs at this stage, the labours will undoubtedly take UNiKA into new territories and new markets.

Despite its recent digital credentials, analogue products such as the evergreen A-series remain the bread and butter of this unique company. The UNiKA brand may signify exceptional or extraordinary to some of its worldwide users, but this may just be a layer of marketing mist after all.

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FOR THOSE PILGRIMS WHO HAVE ATTENDED FRANKFURT Prolight + Sound (PL+S) over the past 25+ years, the journey has almost come full circle. Born out of Musikmesse, the exhibition rapidly expanded by attracting everything required for the stage from smoke machines to wireless microphone systems. With growth, Messe Frankfurt built new expansive halls to accommodate for increasing numbers of overseas manufacturers inside the fairground, while hoteliers, taxi drivers, airlines and restaurants prospered outside. Slickly organised, PL+S was a given, year in/year out. Its decline remains a mystery to many.

However much the organisers have tried to move the halls around in an attempt to create a winning formula, it has experienced steady decline. Having relocated all the audio exhibitors from Halls 8.0 and 9.1 (Asian) in 2016 to 4.1 and 3.1, they brought them back to 8.0 this year. The rear sections of the screened-off hall together with the large networking areas on the show floor provided a snapshot of how many exhibitors have since voted with their wallets to end their participation. Virtually all the Korean exhibitors, together with a large number of western brands including Genelec, Next-proaudio and RME, were absent.

It is hard to understand why the Hall 8.0 exhibitors were grouped together under the studio, DJ and recording category, as the predominant products on display continue to be loudspeakers, amplifiers, mixing consoles and microphones. But this goes a long way to understanding the decline of the exhibition – Messe Frankfurt is not in tune with its audience.

The extraordinary exodus of Asian brands from 8.0 to 9.1 in 2012 also had an adverse effect on the fortunes of the show. The segregation of their primary Asian customers remains an irony, as the organiser has hosted PL+S in Guangzhou and Shanghai since 2004. The continued absence of Asian manufacturers including Chiayo, DSPPA and Taiden has also originated from this decision.

Additionally, the two-month gap between ISE and PL+S has effectively thrown open a big dilemma to those distributors based several time zones away. Although the presence of Chinese New Year and Easter may also play some part in the decision, ISE has also played a significant role in diverting the trade show budgets of some brands, from Apart Audio to TOA, away from Frankfurt.

In addition, numerous other exhibitors have decreased their booth size over the years citing declining ROIs and visitor attendance in their decisions. Prior to the **Bosch** acquisition in 2006, Telex EVI commanded one of the largest booths in Hall 4.1. This year, **EV** and **Dynacord** promoted an Evolve 50 speaker system and L-series amplifier platform, respectively, on a vastly scaled-back booth. Two years ago, **EAW** provided the loudspeaker backdrop for the enormous Festhalle, while **Martin Audio** unveiled 10 new products during the 2017 exhibition.



Adamson's Ben Millson with TPP's Sheldon Gool



The Vintage Museum took visitors back down memory lane



L-R: Tony and Ann Andrews of Funktion-One promoted the Vero VX system



Outboard's Dave Haydon explained the virtues of the TiMax Tracker



L-R: Merlijn van Veen and Bob McCarthy of Meyer Sound



The Cadac team

Although both brands had committed to the show this year, their collective footprints were minimal.

However, for those doing business in both fairs, the decline in European MI has been evident for the past decade. Not so long ago, Thomann, Marshall, Fender, Gibson, Zildjian and Orange were making their presence felt – and heard – but, having left the stage, these brands have created a gap that seemingly cannot be filled. In order to better connect with musicians, microphone manufacturers traditionally exhibited at Musikmesse before alternating or diverting to the PL+S halls to interface with a wider audience. Although the absence of AKG, Audix, beyerdynamic, Sennheiser and Shure may not be purely accredited to the show's contraction, it is a significant correlation.

While the main audio hall in 8.0 recorded diminishing audiences, the lighting hall below in 3.0 was bustling with visitors excited to see the latest technology for this section of the industry.

Celebrating its Silver Jubilee in Hall 12.1, **Robe** hosted spectacular live shows set against a magnificent backdrop every hour. Among the glittery celebrations were a series of new product launches such as its T1 Wash, the L3 low-light linearity dimming system and its new iPointe IP65-rated light source for festivals and concerts.

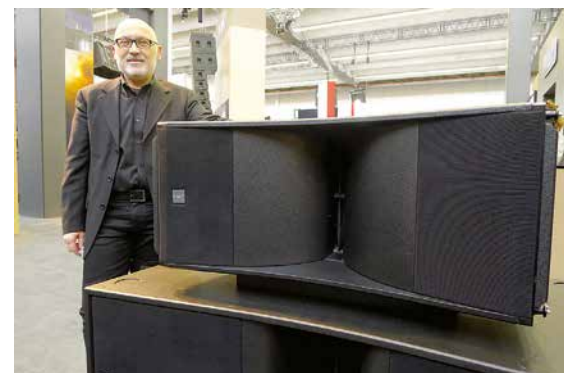


Adam Hall did not fail to impress passers by

Occupying its biggest booth to date and shining a light on its 25th birthday was **GLP**. The 380m² space featured a light show choreographed by lighting designer, Nate Files. 'We've launched more products this year at Frankfurt than before because of our anniversary, including the KNV Line, KNV Dot Cube, GLP Highlander and Impression S350 Wash,' explained Søren Storm. 'Asia has been less represented at the show this year, although we've seen a few people from Japan and Australia. We're still committed to this show and the outcome here is always worth it, but it needs to extend its international reach.'

MA Lighting promoted its dot2 lighting control solutions this year. Familiar to the audio world for its Neo loudspeakers, BlueLine digital signal processors and Arion line arrays, Spanish brand **Work Pro** once again committed itself to the lighting hall for this year's exhibition to showcase its LightShark cross-platform lighting control system.

Having moved from Hall 3.0 to Hall 12.0, some lighting manufacturers expressed a lighter body count than previous years. Positioned near the entrance of Hall 12.0, **Avolites** was drumming up interest in Synergy, a lighting and video software control system that will be released in June. 'We've still seen a high number of international customers

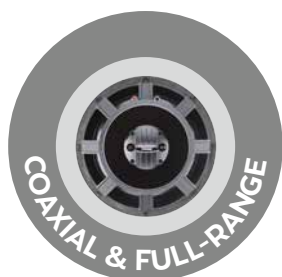
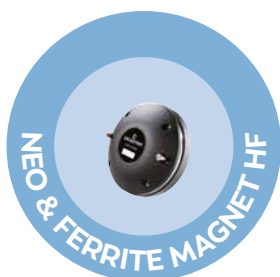


Roberto Mataloni from FBT with the new Myra

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CELESTION

in Hall 12.0,' commented Avalites's Koy Neminathan. 'Around 80% of our international distributors attended the show this year.'

Highlighting the first-ever 'best of the best' Red Dot award in the LED display industry for Unano, Chinese manufacturer **Unilumin** returned to the show following a six-year absence. 'When PL+S started putting all the Chinese manufacturers on one floor, we stopped exhibiting,' explains Unilumin's Emily Tse. 'Now we're all in the same lighting halls, it's better here than it was for us before.' A plethora of new lighting options from the likes of **Altman**, **Ayrton**, **ChamSys**, **Chauvet**, **Chroma-Q**, **LSC**, **MDG** and **Robert Juliat** also beamed their attention on visitors.

Hall 4.0 became a collective of technologies that could not be categorised under the audio, lighting or MI categories. Some of the prominent visual manufacturers normally associated with a larger presence at ISE were here in an attempt to appeal to touring production companies. **Calibre** was debuting its 4K Quad Vision and LED wall SmartBrick, in addition to the HQPro 1000 scaler/switcher. 'It's the first time we've been here in Frankfurt and it's the ideal show for us to launch these products,' commented Richard Smith. 'As we're increasingly becoming a wider solutions provider, it makes sense to be present here as it's an upcoming show in the video realm.' Likewise, **Analog Way** demonstrated its Pictural series of media servers, LiveCore 4K multi-output seamless switchers and videowall processors together with the Ascender 48 - 4K seamless switcher. **Dataton** was in close attendance showcasing its Watchout multi-display system on a big screen, while **Christie** demonstrated its Crimson, HS and D4K40-RGB laser projectors.

HK Audio returned this year to a prominent booth position in Hall 8.0. 'We've met up with many old customers and received encouraging feedback on the new products,' explained Andreas Mayerl. In addition to extending the Cosmo series, the Linear family was extended with '7' and a new column speaker named SL.

As in 2018, an immersive dimension was provided off the show floor with rooms dedicated to **d&b audiotechnik's** Soundscape experience and **L-Acoustics' L-ISA** hyperreal sound. Making a welcome return after a three-year absence was **Meyer Sound**, whose Sonic Lounge was located in the new Portalhaus Ebene Via Room where four live demos were hosted on all four days. 'It's been extremely well received, all the sessions have been packed,' exclaimed Meyer Sound's Chris Mead. 'This year, we were allowed to demonstrate the sonic qualities of Spacemap Live and our Ultra-X40 point source loudspeaker in a great environment without having to take space on the show floor.' Conversely, TiMax did provide demos of their TrackerD4 performer tracker system on the show floor together with the immersive spatial audio HARDCore FPGA platform.

Large-scale sound systems were demonstrated in 10-minute slots at the Live Sound Arena under real-life conditions, such as the rainfall that fell on most days. Visitors to the outdoor demonstration area could better appreciate the sonic qualities on offer from **dBTechnologies** (Vio L212), **EAW** (Any), **FBT**



EAW's James Bamlett with the KF810P



Robe celebrated its 25th anniversary in style



Austrian Audio's Martin Seidl with the OC818 LDC



L-R: Allen & Heath's Jamie Ward and Markus Sinsel

(Horizon), **Fohhn** (Focus Venue), **Funktion-One** (Vero VX), **KV2 Audio** (VHD 2.0), **Proel** (Axiom) and **RCF** (HDL-26 and HDL-50). Adding another dimension to the show floor exhibits for the third year running, the Frankfurt Festhalle was the setting for the PRG LEA stage and its Highlight Show. Directly opposite, the Vintage Concert Audio Show was one of the hits of the exhibition with its 200+ exhibits, dating back to the 1960s before line arrays and digital desks.

Away from the remote demo rooms, d&b audiotechnik drew visitors to its booth by promoting the KSL and new GSL line arrays, together with the B8 subwoofer, and educated users with a d&b workflow station featuring R90, DS20 and Revit, while adding five new speaker cabinets in the form of the A15 Focus, A15 Wide, A10 Focus, A10 Wide and KS21 subwoofer. L-Acoustics also presented updated versions of its Soundvision and LA Network Manager software.

Celebrating its 70th anniversary, RCF promoted many new products at PL+S, and this year's fair was no different in reinforcing its status as a systems manufacturer. With the latest HDL additions being demonstrated outdoors, visitors to the booth could view the Ayra monitors, F24XR and M20X digital mixers, ST stage monitors and a new range of install products making up the Business Music Solutions catalogue



KV2 Audio's Alex Pagliani unveiled the ESD Cube

including Digital Mixing Amplifiers (DMA) and Digital Power Amplifiers (DPA).

The main attraction on the dBTechnologies section was a rigging training demonstration for the Vio L212 system. The Vio series has been further extended with the X205 active system and the W10 active wedge, while 10-, 12- and 15-inch coaxial models constitute the FMX monitor series. Renowned for his audio passion and commitment, Claudio Ottani and his colleagues may not have taken a holiday judging by the Sya active speaker, Sub 900 and LVX P series together with the DEM30 IEMs and RW16 wireless microphone system.

Meanwhile, its EAW stable mates removed the wraps from the KF810P line array in addition to the powered LA153 and LA121 portable polypropylene speakers. Having been enveloped into the group in late 2018, **DPA Microphones** made up the quartet within the large, open-format booth to showcase its latest d:fine Core 6060 subminiature headset and d:screet Core 6060 and 6061 mics.

It's been over 10 years since **Nexo** was acquired by **Yamaha**, but this was the first PL+S in which both companies were sharing the same space. It seemed appropriate that the latest NXAMP amplifier additions (4x2 MK2 and N4x1 MK2) were a joint collaboration. Yamaha promoted the powered DZR/DXS-XLF and passive CZR/CXS-XLF speaker systems together with the Rivage PM10 and PM7 consoles, while Nexo displayed its family of Geo M620, M10 and M12 line arrays.

The commanding presence of the Adam Hall Group continued at PL+S. Its **Cameo**, **Gravity** and **LD Systems** brands all launched new products for which the latter showcased the Maui I1 fixed installation speaker system, IMA and IPA installation amplifiers, DQOR outdoor speakers and the U500 IEM Series. Cameo's 'for lumen beings' marketing campaign was illuminated by Opus series LED moving heads, Zenit outdoor wash lights and F-series LED Fresnels. Specifically developed for the pro rental market by Gravity, the Touring Series of stands distinguished by their captive adjusters drew the interest of production companies.

With the launch of the C12, **Outline Audio's** Superfly compact line source system continued to 'set new standards in performance' for a speaker of its dimensions, according to the Brescia-based innovator. While the large-format VHD 2.0 and 5.0 loudspeaker platforms drew visitors to the KV2 Audio booth, the devil was in the detail this year with the advent of the ESD Cube compact passive 5-inch loudspeaker. Incorporating a trans-coil AIC (Active Impedance Control) design for vocal reproduction, extended high-frequency response and low distortion, the dual



L-R: Mipro's KC Chang and Mipro Germany's Hartmut Reichert



Lawo's Wolfgang Hubert with its new conductor camera



L-R: GLP's APAC team, Søren Storm and Michael Muenz



DiGiCo's James Gordon cut the Mustard



L-R: George Koumis, Weiwei Yin and Richard Smith of Calibre



Alcons Audio's Tom Back and Danielle Schouten promoted more ribbon innovations



L-R: Dinh Viet Hung from FSL joined d&b audiotechnik's Jane Blanloeil and Amos Jen



Juan Jose Vila of Equipson SA

5-inch cone Cube is the smallest enclosure to date in the KV2 locker. 'The Cube is our small solution to many of today's big audio problems,' said KV2's Dave Croxton. 'It can be used either as a standalone system or for fill applications.'

Other notable loudspeaker launches at the show included additions to **Adamson's** S-Line series with the S7 ultra-compact line array enclosure with its complementary S118 subwoofer, plus the S7p and S10p point source cabinets. 'Even as we expand the simplified IS-Series for install applications and the Milan-ready CS-Series, the S-Series remains the anchor. These new offerings expand the number of potential system configurations for even more tailored solutions,' commented Adamson's James Oliver.

With the JMAXX succeeding the MaxX series of portable loudspeakers, FBT also announced the launch of Myra 214L. 'FBT has been exhibiting here since the beginning – we always catch up with our main distributors and partners in Frankfurt,' added Roberto Mataloni. 'However, we've seen fewer people this year in comparison.'

Alcons Audio's flying Dutchman Tom Back was on hand to demonstrate the latest LR24 mid-size pro-ribbon line array with its newly designed pro-ribbon transducer. While showcasing the al-class Acoustic Linearity line array and h-Class systems, **Vue** premiered the e-Class range including the e-351 Nano Ultra, e-352 Ultra Definition, es-269 dual 6x9-inch ultra-low-profile subwoofer and V-242 VueDrive systems engine.

Outside of the enclosure, new drivers were evidently on display for which both **B&C** and **BMS** extended their respective compression driver ranges with the launch of the DCX464 coaxial and 4596ND neodymium midrange. Celebrating its 50th anniversary, **Beyma** added three new LEX woofers in the form of the 2LEX1300Nd, 18LEX1000Nd and 15LEX1000Nd models together with a new 14-inch 14MC700Nd driver.

Celestion shone a spotlight on the CDX14-2410 and CDX14-3040 HF compression drivers together with the CF1230F and



L-R: Torsten Turinsky and Udo Wagner of Microtech Gefell with the M300 Professional Stereo Touring Set

CF1540HD for use in subwoofers, while **Faithal Pro** was eager to promote five new woofers (12FX600, 15FX600, 18FX600, 12XL1200 and 15XL1200) and a new HF1440 neodymium compression driver.

Long-term advocates of future-proofing technology with software and firmware updates, **DiGiCo** was once again furthering its credentials. In addition to announcing new software upgrades for the SD12 and SD10, and an A3232 DMI card from the 4REA4 range, DiGiCo cut the Mustard. This new set of algorithms and options provides channel strip processing for Quantum 7, making full use of the engine's FPGA infrastructure.

Visitors to the DiGiCo booth were invited to appreciate how **Klang:technologies** immersive in-ear mixing has been integrated into the SD-range of consoles. 'It's the first real opportunity DiGiCo has provided for monitor engineers to experience the new control integration for immersive in-ear mixing with its bidirectional control of mixes and immersive pan positioning for fully immersive IEM feeds within their normal workflow,' stated Ian Staddon. Despite the opening-day speech by James Gordon that this PL+S would be its last, Staddon countered this view. 'The show still brings the major production companies in from all around the world. Where else would I meet so many operators from Japan, South Africa, Middle East and India all in one place?'

Cadac added a console sidecar, mirroring and bus VCA features in a preview of v6.0 CDC OS at this year's show. The company's booth featured five CDC consoles operating over the MegaCOMMS dedicated music production audio network. Visitors to the **Allen & Heath** booth were able to get hands-

on with the SQ series of mixers loaded with DEEP processing plug-ins in addition to the dLive touring systems, including the C1500 surface and dLive MixRacks, together with the Qu and Zed ranges.

Stage Tec presented IP-based products and applications for theatre, live and broadcast applications for which the intuitive Avatus took centre stage. In addition, the Berliners showcased Aurus platinum with Waves integration, the Nexus network and router, and the Crescendo-T theatre console.

Powersoft unveiled the new X4L amplifier, the LOTO DSP 1-2-in/4-out advanced DSP board, the DSP-Lite ETH 1-2-in/3-out DSP interface and an update for its Snapshot Selector mobile app. **RAM Audio** introduced the new generation of V- and W-series touring amplifiers incorporating QuantaPulse technology. Optimised to deliver 2,500W per channel into 4Ω with all 8 channels driven simultaneously, **Linea Research** launched a series of eight-channel 20kW models to their C (installation) and M (touring) series of networked DSP amplifiers.



Outline's Giorgio Biffi with the Superfly C12 module

Microphones were in short supply, although Taiwanese heavyweights **JTS** and **Mipro** caught the eye with their latest wireless systems. However, for new kids **Austrian Audio**, the show was a tremendous success as it marked its trade show debut following its 2017 inception. The former **AKG** employees successfully educated visitors with the virtues of the new OC18 cardioid, OC818 large-diaphragm condenser microphone with multiple polar patterns and CKR12 ceramic capsule, all handmade in Vienna with patent-pending ceramic capsules.

With exhibitor questionnaires completed, Messe Frankfurt would do well to recognise its problems before plotting a course for PL+S' survival. The live production community certainly requires an annual central Europe gathering. With consultation, a more focused 2020 vision is possible.



All the president's men: Philipp Wrede and Marco Cantalu (dBTechnologies), RCF president Arturo Vicari and James Newhouse (EAW)



L-R: Avolites' Koy Neminathan and William Cheng with Synergy



L-R: Faithal Pro's Jason Longobardo, Valentina Rossi and Flavio Naggi

2019 Dates:	2 – 5 April
2020 Dates:	31 March – 3 April
Venue:	Messe Frankfurt
Total attendance:	85,000
Contact:	pls.messefrankfurt.com
Video:	 www.proavl-asia.com/videos/trade-shows

Prolight + Sound Guangzhou 2019

A visible rise in international attendees was warmly welcomed at this year's show

IN THE SPRAWLING CITY OF GUANGZHOU, PL+S

and GETshow have historically shared crossover dates, but this year the 17th iteration of PL+S took place in late February at the China Import and Export Fair, while GET retained its traditional May calendar slot. It was time to see whether the separation of the competing shows aided or hindered exhibitors and visitors alike.

Judging by the organiser's claims of increased exhibitor numbers along with large crowds queuing up to register, there certainly didn't seem to be too much to fear on the statistics front. On entering the main pro audio halls, normal service appeared to be in operation including, unfortunately, the excessive decibel levels. The footprints in each of the primary 'audio brand name' halls pretty much mirrored that



The Konig & Meyer team presented the new Spider Pro keyboard stand



Roberto Mataloni explains the new Horizon series from FBT to a visitor



One of the busy seminar programmes



Gianluca Tura from Faltal Pro welcomed the Stonewater team from India to its booth



of the 2018 show and, in Hall 5.2, visitors were immediately confronted by a prominent **Harman** booth that incorporated a number of small karaoke rooms promoting its Ki510 and Ki512 models. On the opposite aisle, **Yamaha** displayed both the CBR and DBR speaker ranges alongside the TF series of consoles. With the show coming hard on the heels of both NAMM and ISE, visitors were able to take advantage of getting up close and personal with a number of recent product launches including **d&b**'s KSL array, the T Series from **Powersoft** on the EZPro booth and **Atlas IED**'s innovative SHS (Strategically Hidden Speaker) displayed on the Litron stand.

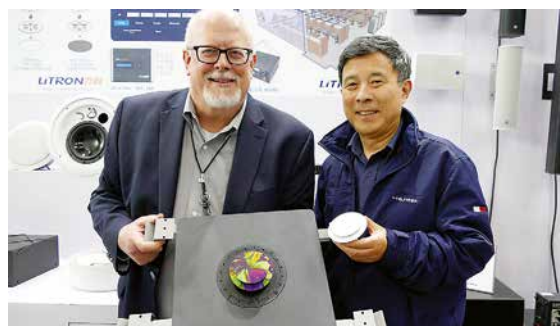
Although the ever-popular outdoor line array has been a regular fixture over the past years, the show hosted its first interactive multimedia display in cooperation with Chinese media giant Visual Jockey, entitled 'The Lighting and Art Space'. A comprehensive seminar programme was also available, enabling interested parties to hear more about



Ken Weller and Jeremy Munns introducing the new Celestion CDX14-3040



Ian Wright from HH Electronics talks a customer through the new TNI-4030



Dean Standing and Alexander S Lu showing off the new Strategically Hidden Speaker from Atlas IED

'Theatre-based applications in AVoIP' and 'LED: the new language for high-performance lighting', while **Audinate** offered a Level 1 and 2 Dante Certification course on the first day. 'We had around 80 people attend the training, so we were pleased,' commented Ben Wong. 'This was the first time we've ever taken a booth at the show, so it's been very positive. We're offering an AoIP networking solution, a so-called second-generation product for this kind of technology and, as most people in China don't really know how to use it, we're offering the end-user a lot of training opportunities.'

As is often the case, the show proves a timely opportunity to alert the market to new distribution tie-ups, including the likes of Belgian loudspeaker manufacturer **Audiofocus** appointing Eatrend AV Technology. Elsewhere on the floor, Phoenix Audio



Line arrays in the outdoor demo area



The Audiocenter booth was busy throughout



Cherry and Dowson Yu with the recently launched CS-W4 transmitter from JTS



Adamson's Ayumi Hanano, Richie Wang and David Dohrmann on the Real Music booth

not only introduced amp manufacturer **Full Fat Audio**, but also took advantage of the Vero launch – **Funktion-One**'s large-format touring system – for the first time in China. **Acustica Beyma** reminded the industry of its half-century pedigree with '50' logos prominently displayed on its booth. Espartaco Saez felt that the February slot worked better for them. 'We still have opportunities to grow here and meet new clients, but the expectations are good and we're happy. But this is the worst show in terms of sound levels; the organisers can't control it and it's very disappointing.'

German cable manufacturer **Klotz Ais** had decided to exhibit in its own right for the first time. 'For us, it's about leaving a footprint in the market,' explained Frederic Kromberg. 'We have distributors here who we've worked with very successfully and there's a strong demand for Klotz so that's why we decided to take our own booth – so we can show an even wider range of products, plus fibre-optic and network solutions with CATLink boxes that visitors haven't seen before.'

Xilica, however, was making a return to the show, having spent the last few years exhibiting at GET. 'We decided to come back and I do think we've seen more international visitors here,' confirmed Tim Cheung. 'While we have distributors in other halls, we wanted our own dedicated booth where we can demo and we've introduced the Solaro FR series and X2 DSP which has built-in processing and FIR filters.'

Established local manufacturers were also in attendance. **Enewave** showcased its new vertical line source array, the VLA-215, with **Audiocenter** displaying the recently launched i-series of commercial speaker solutions and **SAE** continuing



Wilson and Tim Cheung from Xilica



Happy birthday Beyma

to invest in large, prominent booths. 'It has been a very successful show for us. We're seeing an increase in both international and domestic customers and I'd say 80–90% of them are new customers,' stated SAE's Bill Lee. 'This show is just getting better and better.'

Thankfully, Hall 3.2 remained quieter due to its aggregation of microphone manufacturers. **Sennheiser**'s distributor Artsound showcased the XS Wireless Digital series and the EW 500 G4-KK205. 'It's the first time this product has been shown in China. It uses **Neumann** capsules and colours that can be custom-made, which has grabbed people's attention.' Further down the aisle, **Shure** had designed its booth with dedicated pods highlighting product applications such as 'at home', 'online', 'outdoor interviews' and 'on the way' that simulated a train carriage. Meanwhile, the **Mipro** team was on positive form. 'It's our primary show and I believe it will keep getting bigger and better,' confirmed Ian Huang. 'The market has been challenging but we've still had good results and we've been focusing on doing more training and marketing activities.'

Hong Kong-based distributor Top Plot International took the opportunity to display the recently launched **Nexo** M12 line array for the first time in China. 'With the separation of the



Audio-Technica's Freddie Wong with the new ES954 hanging mic



L-R: Alexander Rinklef, Peter Klotz and Frederic Kromberg



Vicky Fung from Shure



Ian Huang from Mipro and the ACT-74811

two shows, I think people are more focused on coming here,' commented Michael Chow. 'It's been very busy and we've seen a lot of international buyers from places like Cambodia and even Syria.'

The overriding opinion from companies seemed to be that there was definitely more of an international focus to the show with the bigger brand names pulling in the overseas contingent. 'It's even more professional and international than before,' stated Grégory Dapsanse from **APG**, which displayed its UniLine compact line array. It was a sentiment echoed by Ian Wright of **HH Electronics** on his distributor Eatrend's booth: 'It feels busier and the quality of product here is substantially improved. We've seen visitors from Africa, India and even Latin America. From an international point of view, we're becoming more recognised and that's helping us as we expand the product range.'



The SAE team

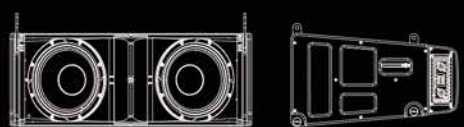
The show organiser has worked hard on encouraging the overseas contingent to the show with a compelling international buyer incentive scheme and this was borne out by distributor and installer Yosua Yan Heriyanto, who had made the journey over from Jakarta. 'I'm here looking for products to integrate with our current portfolio and, due to the projects we're involved in, increase our lighting and video inventory. I've brought some of my staff with me to increase their knowledge and meet with tech support teams as it's really beneficial.' But he added a suggestion: 'It's a shame that more of the bigger brands don't send their international sales managers as that's who we would like to talk to.'

It would appear that the move to separate PL+S from GET has worked in the show's favour and, with 2020 dates confirmed around a similar time, one can only expect a bigger, but hopefully not noisier, footprint next time.

2019 Dates:	24–27 February
2020 Dates:	19–22 February
Venue:	China Import and Export Fairground
Total exhibitors:	1,353 (1,300 in 2018)
Attendance:	81,154 (75,800 in 2018)
Contact:	www.prolightsound-guangzhou.com.cn

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Out of the Ether

Deciding between Dante and AVB was not, until recently, a straightforward choice: like deciding between shop-bought beer and home brew. Since the launch of AVB Milan as an application layer solution, the arguments have now entered a more level playing field. **Phil Ward** aims right between the goalposts as two of the world's leading audio networking gurus go head-to-head

AVB MILAN

Jeff Rocha, global product management director, L-Acoustics

Why is there confusion about whether we should compare AVB and Dante?

I would say that, from my perspective, the biggest issue is that people historically were comparing AVB to Dante – or any other readily available network protocols, Dante being the one with the most traction – as if they were the same concept. But, in reality, you have to compare AVB with standard Ethernet protocol. So, if you think of Ethernet as being the network layer, Dante is then really an application layer that's built on top of that.

Dante is a way of ensuring that all of the devices that are using it are interoperable on the Dante network. The challenge from our perspective is that Dante is ready-made for Ethernet: users actually see a benefit in being able to use a regular Ethernet switch. But, in fact, that switch has Ethernet weaknesses, and that's what companies like L-Acoustics, d&b audiotechnik and Meyer Sound were concerned about – because Ethernet was not truly meant for real-time audio transport.

This meant that things like timing and synchronicity on the network, and also the guarantee of having bandwidth availability, were not really there. There are some workarounds that have been developed: Precision Time Protocol; DiffServ – things to try and prioritise data on an Ethernet network and make sure that real-time audio can happen. The reality is that if you have an Ethernet-based network and you're trying to learn real-time audio and control over the same cable, and you end up with a lot of other data on the network, it can actually cause audio dropouts. Basically, anything built on Ethernet has some risks.

How does AVB overcome those risks?

AVB, by comparison, has things like timing and bandwidth reservation baked into the hardware. It's the reason why you need an AVB switch. None of the foundational weaknesses of Ethernet are present in AVB. You could say that AVB improves the pipe through which the content flows – audio and video. The problem, though, is that it's essentially a standards-based IEEE protocol that gives a lot of flexibility in the implementation process. So manufacturers can make choices about stream format, how they deal with clocking, do they want to do redundancy and how are they going to provide it ... and essentially, for years, manufacturers that chose AVB as the solid foundation for their network implementation kind of built their own application layer on top of AVB and would make their own decisions about formatting, clocking and so on. What that meant was you could put devices from different manufacturers into AVB, and essentially those devices were not speaking the same language – precisely because those same manufacturers had made their own decisions. That's what Milan is all about. In many ways, Milan is something that could be more fairly contrasted with Dante, because it is the application layer solution that sits on top of Ethernet, and it is stronger.

That's what gives the industry the level of interoperability it requires, and what our customers need so that when they plug in different devices, they just work. And they have all the assurances, with AVB as the underlying technology, that things like timing and guarantee of bandwidth for audio are taken care of – so you don't have to worry about audio dropouts.

Do you still have to carry out your own implementation of the protocol?

No, that's the beauty of it. From the user's standpoint, Milan is even more plug-and-play than something like Dante, precisely because of the limitations of Ethernet. Due to those limitations, there's still work that has to be done on the Dante side concerned with quality of service and other things. There is always some set up and configuration associated with any Ethernet-based network to make sure the hardware is configured correctly. With AVB, as long as you're using Avnu-certified AVB switches and, alternately, Milan-certified AVB endpoints, you literally just plug them together and they work.

From a manufacturers' standpoint, the Dante path was in many ways easy, I would say, because as long as you pay for Dante hardware, Audinate can help with implementation. There's an incremental cost per unit but, from a development standpoint, it was simpler – that's why it's been attractive to manufacturer's. AVB was harder – but not anymore.



DANTE

Joshua Rush, vice president of marketing and product management, Audinate

How should we consider Dante as a commercial option?

The right way to think about Dante is a complete application stack – in fact, a solution as opposed to a protocol. To be honest, we view the protocols that actually connect the streams between devices as the most basic level of connectivity. In the development of Dante over the past 10 years, there were things above and beyond that level that were purposely done to make it easy to use – plug-and-play, discoverability, the ability to rename devices and having tools like Dante Controller so you have a third-party controller that's maintained by one independent company. Dante Controller is important because it's the software that you use to actually make the routes and monitor network health for latency, clock sync and so on.

Aidan Williams' vision when he founded the company was to recognise that if it wasn't drop-dead simple, and if it didn't work on people's existing equipment, it would be very difficult to get wide adoption. It's important to think about it like that because, at that protocol level, we can choose to include many different options to create an end-to-end solution that people can buy into. We listen to our customers to figure out which ones to incorporate.

Such as?

AES67 is a good example, because there were lots of requests for adding that in, especially from the broadcast sector. It's one of the layers of the stack, meaning it's not either one or the other – you can have AES67 within Dante and still get all the other benefits of the solution stack. The most recent one is SMPTE ST 2110, announced at NAB last year, behind which there's a lot of momentum in the Alliance for IP Media Solutions. With all these other things we bring to the table, it's better to think of Dante as an audio networking application rather than a protocol. It's much more than that.

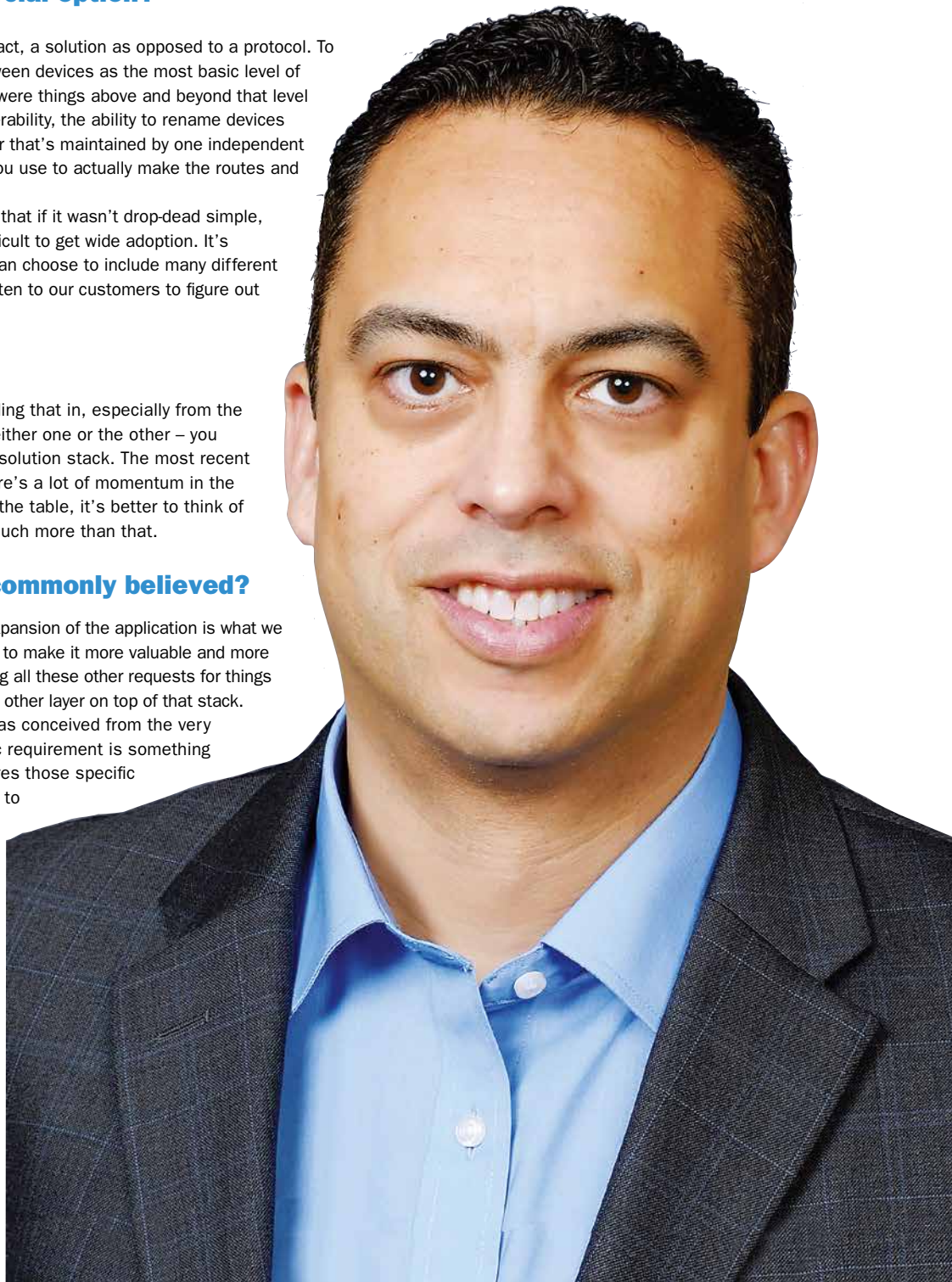
So, it's not quite so finite and hermetic as commonly believed?

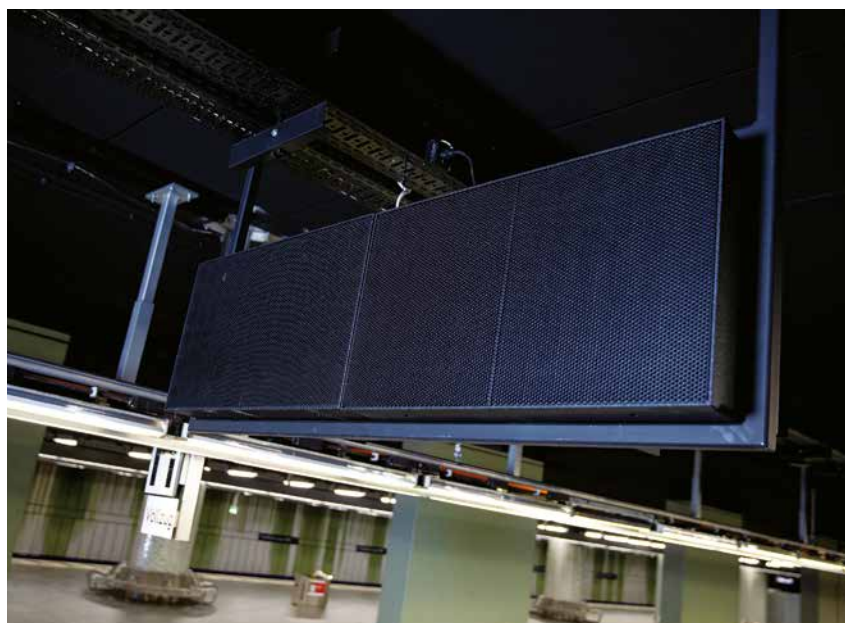
Frankly, we have a pretty big engineering team over in Australia and the expansion of the application is what we spend the majority of the time working on – additional things for the stack to make it more valuable and more usable. Dante Domain Manager is a great example of that: we were getting all these other requests for things like security, user management and dashboards so we developed a whole other layer on top of that stack.

Milan is positioned around interoperability, but that was how Dante was conceived from the very beginning. The news around Milan is basically validating that this basic requirement is something users really want. The challenge is that it's still built on AVB and requires those specific switches, while one of the founding principles of Dante is that it needs to work on existing hardware. There was a lot of engineering work done in the early days to make that possible. Also, with AVB there's still no central group developing the control software and making it consistent across the manufacturing sector. Again, Dante Controller is really powerful in being able to provide that window into the Dante ecosystem, and we spend a lot of time, energy and investment in continuing its evolution as a viable tool throughout the whole industry.

Your products do seem to have a consistent goal of universality

Right – Dante AVIO Adaptors are a good example of that. We continue to get more and more Dante-enabled products all the time. There's around 1,700 now. But sure, there are millions of products out there already in place that people might want to include on their network, so they need a simple way of connecting all of them. You want to be able to enjoy the experience that the software offers across all your gear – not just some of it.





A pilot installation consisting of 23 audio modules in 11 positions at Frankfurt Central Station aims to improve speech intelligibility of announcements on S-Bahn platforms

Controlled sound

Based on the philosophy that spaces change but sounds stays the same, Berlin's plucky start-up Holoplot is bringing precisely directed sound to complex environments. **Ledetta Asfa-Wossen** reports

BUILT ON THE BASIS OF WAVEFIELD SYNTHESIS – A

spatial audio reproduction method that can reconstruct any wavefront, from spherical, cylindrical and planar – Holoplot has developed an audio solution that can be synthesised by individually controlling a large number of transducers.

Beam steering in itself is not a new field of exploration. However, CTO Adrian Lara Moreno asserts that Holoplot has taken it one step further with Orion in its ability to provide horizontal and vertical steering combined, as well as three different kinds of waveforms that can be synthesised and directed precisely in space.

Describing how Orion came about, Moreno explains: 'Our main aim was to solve some of the ongoing challenges with audio, including undirected sound waves, as non-controllable sound travels in all directions. Disturbing reflections, a decrease in volume over distance and low speech intelligibility also result in acoustical problems that can be solved with Orion. Distant audio sources also present an issue as audio never comes close to the listener, even with modern, multichannel setups.'

A main R&D priority with Orion was simplicity, notes Moreno. 'The main system components are the Io Audio Modules – the amount depends on the application, desired outcome, room acoustics and content. The installation as a centralised or decentralised system depends on the use case. Other than that, you're talking an Eta Processor, including a connector and cables to modules (each Io Module has one signal cable), a temperature sensor, some network cables and one audio source – simple.' For a permanent installation, once the device is configured, there is no need to plug in the Orbit software on a computer, nor is there any human interaction required.

Pump up the volume

'This solution offers consistent audio and volume over distance and the way we have managed to achieve that is with planar waves technology,' says Moreno. 'Point source speakers spread energy in all dimensions, which results in less energy (volume) over distance. At Holoplot, we're



Adrian Lara Moreno

using a larger number of transducers in our loudspeakers to tighten volume distribution on a surface (matrix), which results in a planar-shape reproduction that keeps constant over distance, preventing the loss of volume. The attenuation of the sound pressure is due to air resistance only.'

When quizzed on the maximum distance that audio can be carried without truly losing volume and/or clarity, Moreno interjects that it depends on a number of factors. 'The distance that can be covered with satisfying levels depends on the system size, the frequency spectrum that you define as relevant and the required SPL. Audio will never be transmitted without loss – mostly in the high frequencies. The greater the array size, the more control you get over the spectrum's lower part and the system's functionalities. Our systems have 3D directivity control, so they can steer acoustic beams on the vertical and horizontal plane. The greater the system, the more precise the steering capabilities are, mostly in the low-frequency spectrum. In order to have the best SPL and balanced spectrum over a long distance, we configure our system to synthesise multiple planar waves reaching different audience areas. By using planar waves, we keep levels as constant as possible and, by using multiples of them covering different areas, we can easily equalise them individually to compensate air or environmental losses.'

By combining planar waves with constant SPL and controlling the directivity of the system, Moreno



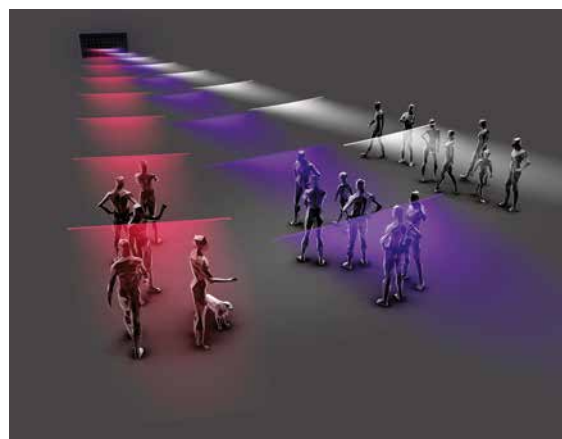
Orion components include an Eta Core processor and Io Modules

claims these systems are able to reproduce relatively dry audio in reverberant rooms, therefore increasing speech intelligibility.

'Lower feedback and reflection can also be achieved using planar waves, as the volume level is uniform over distance, so this does not increase that much when you move a mic closer to the system – reducing the feedback limit. As for conventional point source speakers, volume increases exponentially by getting closer to them, and so does the risk of feedback. Lower reflection is also made possible due to the high directivity. The directivity in the low-frequency band is a function of the system size.'

Diverse application

At the moment, the applications for Orion are distinct and vast. 'With this technology embedded in Orion, we really want to improve the listening experience in almost any situation by improved localisation, better intelligibility, uniform coverage



The illustration shows how Orion is being used to precisely direct audio

and isolated soundfield with different contents from a central system. As a result, the applications really range from the creative to the pretty complex,' clarifies Moreno.

Transport terminals are one field Holoplot hopes to quickly dominate and it's perhaps the clearest example of the potential of Orion to enhance speech intelligibility and directed sound in one of the most composite and hectic environments.

Other applications range from museums – to create 'focused sound objects and immersive soundscapes' – to conferences, where higher levels of speech intelligibility and more even coverage are required. Retail spaces and art exhibitions are other integral markets for the technology, in order to create more immersive shopping experiences, and it's one area that the start-up is keen to capitalise on in the Middle East. 'So many projects are executed in the Middle East that follow architectural designs that result in high reverberation times, namely due to the use of glass, concrete and the design of larger rooms. Our technology, with its steering capabilities, provides effective solutions to create intelligible speech in these buildings,' states Moreno. Other potentially strong markets for the company include Europe and Asia.

Holoplot is not coy on the business benefits it thinks its technology could offer. 'There are lots of operational cost-saving elements to this system – less speakers and/or less installation costs for immersive setups because less or no additional speakers are required,' adds Moreno. 'This solution provides unprecedented acoustic performance, cross-talk reduction and improved uniform coverage over entire audience areas with high levels of speech intelligibility. It's not a system to sit back and enjoy music on, but it's an important audio development for complex environments, where clear audio is paramount.'

That term 'immersive' is one that comes up many times in this industry. And even Moreno expresses concern over its frequent and incorrect use, at times being problematic for companies like Holoplot.



CEO Roman Sick collecting an award at SXSW

Image courtesy of Katrina Barber at Getty Images

'The liberal use of the word "immersive" is why it's becoming difficult to bring a truly immersive solution to the market and get noticed with all the noise around. Truly immersive sound, from our point of view, is an experience in which a person is able to feel dragged into a virtual space that differs from the physical one, while still being able to perform actions that any human will intuitively make. For example, if you find yourself immersed in a jungle, you want to be able to turn around when you hear an animal from the back or to walk to a waterfall that you hear in the corner. And, most importantly, to physically and emotionally share that with the person next to you. This delivers that, which is why we think immersive sound has finally met its half-orange in the market.'

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Immersive audio for devices

As smartphones with 4K video-recording capability increase, **Jyri Huopaniemi**, head of product and technology strategy at Nokia Technologies, discusses advancements in spatial audio capture technology

FOR MANY YEARS, THE RISE IN THE QUALITY of video capture and playback on smart devices has paved the way for new content creation capabilities. We are now at a point where high-definition capture and playback is an expectation rather than a feature. But audio has significantly lagged.

In 2018, almost 80% of digital video viewers worldwide regularly used a smartphone to view content according to an eMarketer report – roughly 2.38 billion people. Given such a high percentage, one might easily come to question why audio capabilities in devices have not improved to match video quality. The answer is simple: producing high-fidelity, true-to-life audio capture and playback in smart devices, that retains the form factor, has been historically difficult to achieve.

True-to-life audio

Take, for example, a professional journalist walking through a bustling marketplace, capturing the environment on a smartphone. A key aspect of their endeavour is to communicate the sights and sounds that make up the scene. But, to do this effectively, they must possess the right tools.

It's likely they will have chosen a smartphone capable of high-definition video capture. But the quality of the audio capture will not be of a high standard if the device is not adequately equipped for capturing the audio scene. They will have to rely on external pro audio equipment. To enable this, a number of design and technology considerations must have been implemented at the design stage of the device.

Faithfully capturing a sound landscape requires spatial audio capture capabilities. Traditionally, spatial audio capture in the field required the use of expensive, dedicated microphones of varying sizes and arrays, along with spatial audio formats, such as ambisonics, that enable modification of the captured audio. For a professional out in the field, such cumbersome hardware can be impractical for the job at hand. Emerging audio technologies are eliminating the need for such hardware, unlocking 3D spatial audio capture and playback while keeping the existing smartphone form factor.

To achieve true-to-life audio capture, a device must firstly be capable of capturing sound from all directions with the right balance. This requires the intelligent placement of the device's integrated microphones. The minimum requirement is two microphones, as the incoming sound must be analysed from more than one direction to better relate the audio scene. But the more microphones present, the better the spatial audio representation will be.

Secondly, audio processing capabilities that allow for multidirectional audio capture

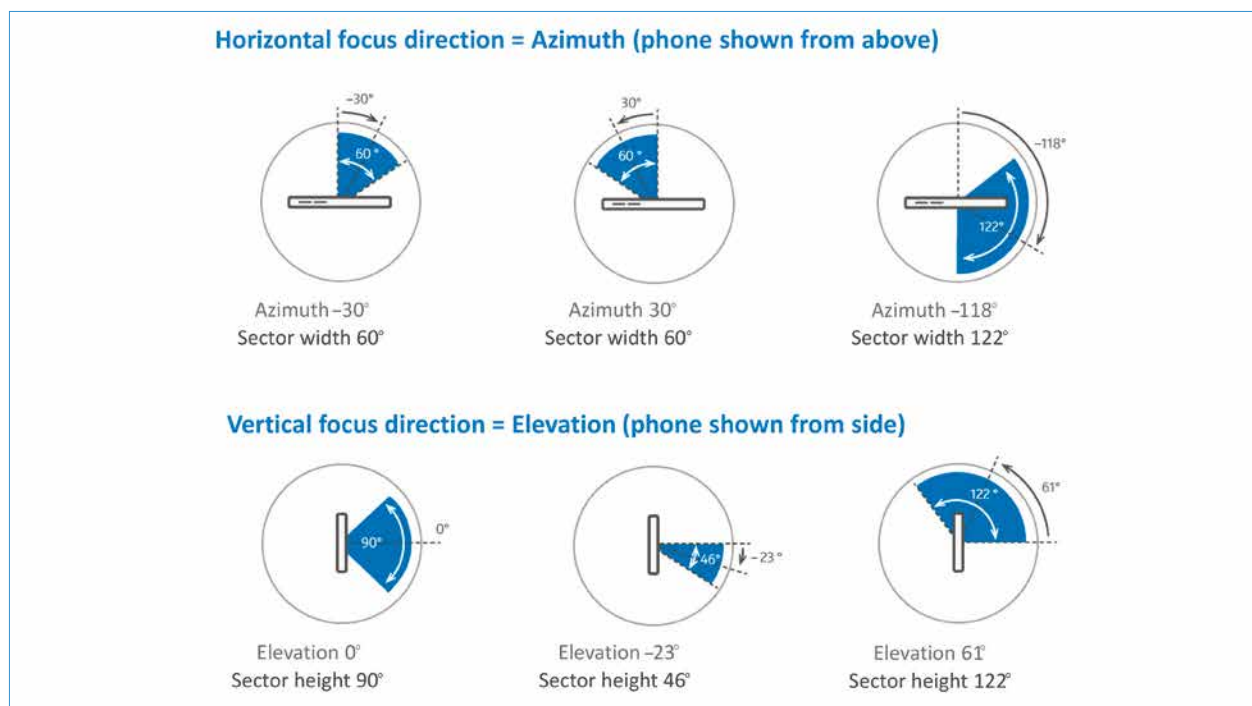


Fig. 1: Audio focus capabilities: audio directional controls. Parameters can be changed dynamically while recording

analysis must be installed and fine-tuned to the specific device. So, in practice, any smartphone that has two or more microphones, and is capable of intelligently processing multiple sound sources, can provide the user with a vastly improved audio experience.

Augmenting mobile audio playback

When consuming digital media, earphones are often employed for the sake of immersion. Now, with the intelligent configuration of software and hardware, it is becoming possible to elevate the sound produced from loudspeakers on smart devices, creating higher levels of clarity, loudness and richness.

There are three vital components that must be in place to achieve this. The device must have stereo speakers. These speakers must be placed symmetrically so that the left and right – in relation to a horizontal orientation – perform in a similar manner. Lastly, smart algorithms for processing the spatial sound scene must be implemented and tuned to the specific device.

When all three are in place, the audio experience of digital media is greatly enhanced, with users perceiving sound from virtual speakers on either side of the device. Even when the loudspeakers on a device are not placed symmetrically, fine-tuning the algorithm at the design stage can still vastly improve the quality of the listening experience.

While spatial audio capture and playback creates new user experiences, further capabilities can be unlocked when the technology is combined with existing AI engines in a device.

Think again of the professional journalist or filmmaker. Faithfully capturing the sounds of the marketplace with a device capable of spatial audio capture creates a true-to-life immersive experience during playback. But marketplaces are also inherently noisy places. If the journalist wishes to focus in on a particular sound source, such as a performance or speech, they must contend with the ambient noise of their surroundings. But problems like this are now being solved.

As the journalist films the subject via a native or third-party recording application, multi-microphone audio capture algorithms can now analyse and process the audio signals within the device software. This allows for dynamic isolation and tracking of the sound source.

Today, it is a given that all devices capable of image capture should come with zoom capabilities, but audiovisual zoom is relatively new. When combined with AI engines, the very same audio algorithms that make audio focus possible can also unlock the ability to zoom in on an audio source – in much the same way as a telephoto lens works.

Furthering the utility of the capture capabilities, the same audio algorithms that analyse the incoming sound during capture, combined with audio adjustment tools in the device, enable the focus and zoom capabilities after the content has been captured. This means the professional can

review and edit the audio of their captured content immediately before sharing, without having to employ sophisticated postproduction software, bringing a new level of freedom and professional-grade audio quality to content creation.

The future of audio

It's only when experiencing the audio capture capabilities made possible with emerging smart device technologies that the chasm between audio and video becomes clear. But what might the future of audio innovation hold?

Trends that are likely to gather pace in the coming years include increased intelligence, immersion and user-generated content capabilities. The potential of audio technologies, such as Nokia OZO, will enable increased immersion in the fields of virtual and augmented reality, which are exciting frontiers in the audiovisual space.

Providing true-to-life audio capture capabilities, along with advanced post-capture edit solutions and playback capabilities for professional media and user-generated content, gives users the ability to capture and enhance audio with stunning clarity and precision.

But the key, overarching trend, will be the improvement of the user experience. Whether professional or consumer, advancing the content capture capabilities of smart devices will continue to unlock new possibilities and enrich people's experience of digital media and their ability to work on the move with professional-quality audio, in a more convenient form factor.

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